IQRA IAS

CURRENT AFFAIRS

JANUARY 2021

VISIT…

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POLITY AND GOVERNANCE

Paper II: This section is relevant to Polity and Governance Section of GS Paper II

IQRA IAS

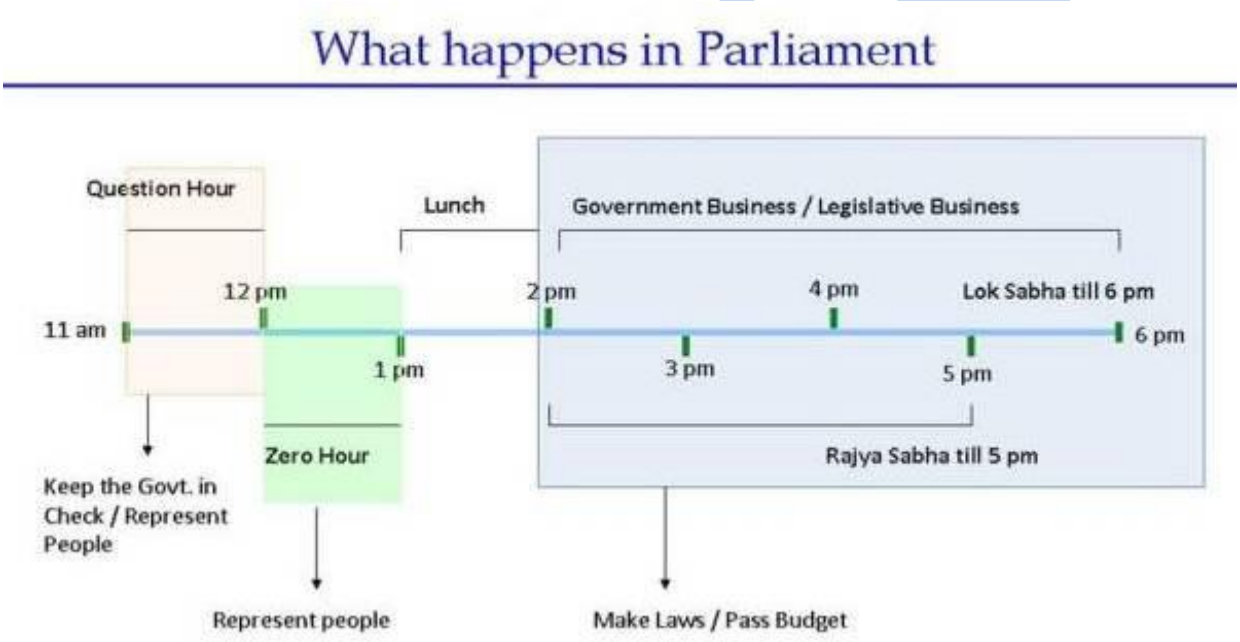
1.1 QUESTION HOUR

Topic: Parliament: Structure and Functioning

Why in News: The Lok Sabha secretariat has announced some details about the conduct of the upcoming Budget session of Parliament. Importantly, the 'Question Hour' will once again be available in the Budget session, after it was suspended for the shortened monsoon session of Parliament due to the pandemic.

Question Hour

Lok Sabha starts every day with Question Hour. The functioning of the Parliament under normal circumstances is as shown



Objective of Question Hour

- Question Hour is the time of an hour during which Members of Parliament ask any questions from ministers related to the implementation of laws and policies under the purview of their Ministry.
- Members use it to hold the government accountable for its policies and actions.
- Its broadcasting on TV started in 1991 and since then, it has become one of the most visible aspects of parliamentary functioning.

Origin of Question Hour

Asking questions of the government has a long history in our legislative bodies. Prior to Independence, the first question asked of government was in 1893. It was on the burden cast on village shopkeepers who had to provide supplies to touring government officers.

Regulation of Question Hour

Parliament has comprehensive rules for dealing with every aspect of Question Hour.

Authority Conducting the Question Hour

The presiding officers of the two houses are the final authority with respect to the conduct of Question Hour.

Kinds of Questions to be Asked

- Parliamentary rules provide guidelines on the kind of questions that can be asked by MPs.
- Questions have to be limited to 150 words.
- They have to be precise and not too general.
- The question should also be related to an area of responsibility of the Government of India.
- Questions should not seek information about matters that are secret or are under adjudication before courts.

Managing Question Hour

To streamline the answering of questions raised by MPs, the ministries are put into five groups. Each group answers questions on the day allocated to it.

Limit on Number of Questions

Parliament rules limit the number of starred and unstarred questions an MP can ask in a day. An MP may submit a maximum of five questions per day. Of the questions listed against his name, one may be a starred question. (It is discussed in detail in later section of Types of Questions)

Different Types of Questions

There are three different types of questions: Starred, Unstarred and Short Notice Questions

- **Starred question (distinguished by an asterisk):** this requires an oral answer and hence supplementary questions can follow.
- **Unstarred question:** this requires a written answer and hence, supplementary questions cannot follow.

- **Short notice question** is one that is asked by giving a notice of less than ten days. It is answered orally.

Days to Conduct Question Hour

- It is the presiding officers of the two Houses who finally decide whether a question raised by an MP will be admitted for answering by the government.
- Question Hour in both Houses is held on all days of the session. But there are two days when an exception is made.

Exceptions

- There is no Question Hour on the day the President addresses MPs from both Houses in the Central Hall.
- The President's speech takes place at the beginning of a new Lok Sabha and on the first day of a new Parliament year.
- Question Hour is not scheduled on the day the Finance Minister presents the Budget.

Significance of Question Hour

- The questions that MPs ask are designed to elicit information and trigger suitable action by ministries.
- Over the last 70 years, MPs have successfully used this parliamentary device to shine a light on government functioning.
- Their questions have exposed financial irregularities and brought data and information regarding government functioning to the public domain.

The curtailed Monsoon session of the Parliament held in the second half of September 2020 saw many changes from the typical sessions, owing to the extraordinary situation due to COVID-19. The session had Lok Sabha and Rajya Sabha working in separate shifts. The instruments of 'Question Hour' were suspended, while 'Zero Hour' was cut short to 30 minutes. With the Budget session of Parliament starting on January 29, the Lok Sabha secretariat has announced some details about the conduct of the session. The 'Question Hour' will once again be available in the session.

1.2 PRESIDENT ADDRESS

Topic: Functioning of Parliament

Why in News: The first Parliament session of 2021 will begin on 29th January with President Ram Nath Kovind addressing members of both Houses of Parliament.

History of President's address

- In the United Kingdom, the history of the monarch addressing the Parliament goes back to the 16th century.
- In the United States, President Gorge Washington addressed Congress for the first time in 1790.
- In India, the practice of the President addressing Parliament can be traced back to the Government of India Act of 1919. This law gave the Governor-General the right of addressing the Legislative Assembly and the Council of State.
- There was no address by the Governor General to the Constituent Assembly (Legislative) from 1947 to 1950. After the Constitution came into force, President Rajendra Prasad addressed members of Lok Sabha and Rajya Sabha for the first time on January 31, 1950.

Constitutional provisions of President's address

The Constitution of India gives the President the power to address either House or a joint sitting of the two Houses of Parliament. When the Constitution came into force, the President was required to address each session of Parliament. So during the provisional Parliament in 1950, President Prasad gave an address before every session.

The First Amendment to the Constitution in 1951 changed this position and made the President's address once a year. Article 87 provides two special occasions on which the President addresses a joint sitting:

- The first is to address the opening session of a new legislature after a general election.
- The second is to address the first sitting of Parliament each year.
- A session of a new or continuing legislature cannot begin without fulfilling this requirement.

Contents and the formulation of President's address

- There is no set format for the President's address. It follows a general structure in which it highlights the government's accomplishments from the previous year and includes the government's plans and focus areas for the year ahead.

- The speech that the President reads is the viewpoint of the government. The government uses the President's address to make policy and legislative announcements. Usually, in December, the Prime Minister's Office asks the various ministries to start sending in their inputs for the speech.
- The Ministry of Parliamentary Affairs also asks ministries to send information about any legislative proposals that need to be included in the President's address. All this information is formulated into a speech, which is then sent to the President.

Procedure of President's address

- In the days following the President's address, a motion called the 'Motion of Thanks' is moved in the two Houses thanking the President for his address.
- This is an occasion for MPs in the two Houses to have a broad debate on governance in the country and criticize the government and administration for its shortcomings and failures.
- The Prime Minister replies to the motion of thanks in both Houses, and responds to the issues raised by MPs.
- The motion is then put to vote and MPs can express their disagreement by moving amendments to the motion.
- The motion must be passed in both the Houses of Parliament; else it amounts to the defeat of the government.

1.3 PRAGATI

Topic: Governance

Why in News: The Prime Ministered chaired the 35th interaction involving Central and State governments through PRAGATI ICT platform, and gave important directions.

PRAGATI

- To make governance in India more efficient and responsive, an ICT-based platform PRAGATI was launched in 2015 for use at the highest levels of the government.
- The multi-purpose and multi-modal platform PRAGATI (Pro-Active Governance and Timely Implementation) is a unique integrating and interactive platform.
- The IT-based redressal and monitoring system is aimed at:
  - Grievance Redressal: Addressing common man's grievances
  - Program Implementation: monitoring and reviewing important programs and projects of the Government of India
  - Project Monitoring of projects flagged by State Governments.

- It is a three-tier system - where the Prime Minister (PMO) interacts with the Union Government Secretaries and Chief Secretaries of the States every month through Video-conferencing, enabled by Digital data management and geo-informatics visuals.
- The system has been designed in-house by the PMO team with the help of National Informatics Center (NIC).
- Issues to be flagged before the PM are picked up from the available database regarding Public Grievances, on-going Programs and pending Projects.
- The system will ride on, strengthen and re-engineer the data bases of the CPGRAMS for grievances, Project Monitoring Group (PMG) and the Ministry of Statistics and Program Implementation. PRAGATI provides an interface and platform for all these three aspects.
- It will also take into consideration various correspondences to PM's office by the common people or from high dignitaries of States and/or developers of public projects;

Significance

The issues flagged are uploaded seven days prior to the PRAGATI meeting. These issues can be viewed by the Union Government Secretaries and Chief Secretaries after entering into the application.

PRAGATI offers a unique combination in the direction of cooperative federalism since it brings on one stage the Secretaries of Government of India and the Chief Secretaries of the States. The PM can discuss the issues with the concerned Central and State officials with full information and latest visuals of the ground level situation. Besides stalled projects, the platform has also helped in the review and improvement of several social sector schemes.

It is an innovative project in e-governance and good governance. A built-in feature of PRAGATI is that any directions issued will remain in the system for further follow up and review till the finality of the matter.

Its impact on making governance more efficient and responsive can be seen from the fact that till January, 2020, the first 34 PRAGATI meetings saw a cumulative review of 283 projects having a total cost of more than 13 lakh crore. Grievance across 17 sectors have been taken up, and redressal has been initiated in many cases including farmers issues and disaster relief.

News Update

- The Prime Minister (PM) chaired the 35th PRAGATI meeting and reviewed nine projects and one program, and took note of grievances across the country. The nine projects taken up have a cumulative cost of nearly Rs. 55,000 crore concerning the 15 states.

- During the interaction, the Prime Minister also reviewed the Pradhan Mantri Bhartiya Jan Aushadhi Pariyojana.
- PM asked the concerned Secretaries of the Union Government and Chief Secretaries of the State Governments to ensure expeditious resolution of issues hindering infrastructure projects.
- He also encouraged Department of Pharmaceuticals and states and UTs to ensure wide publicity of Pradhan Mantri Bhartiya Jan Aushadhi Pariyojana and use technology to enhance its effectiveness. PM emphasized on the importance of grievance redressal, and said that focus should not only be on quantity of such redressals, but also on quality.

1.4 PADMA AWARDS

Why in News: Padma Awards, among the country's highest civilian honours, have been announced on the eve of Republic day. These awards are conferred by the President of India at ceremonial functions which are held at Rashtrapati Bhawan usually around March/ April every year.

News Update

This year the President has approved conferment of 119 Padma Awards including 1 duo case (in a duo case, the Award is counted as one). The list comprises 7 Padma Vibhushan, 10 Padma Bhushan and 102 Padma Shri Awards. 29 of the awardees are women.

The list also includes 10 persons from the category of Foreigners/NRI/PIO/OCI, 16 posthumous awardees and 1 transgender awardees. The Awards are given in various disciplines/ fields of activities, viz. art, social work, public affairs, science and engineering, trade and industry, medicine, literature and education, sports, civil service, etc.

Civilian Awards

In 1954, Government of India instituted two civilian awards i.e. Bharat Ratna and Padma Vibhushan.

The Padma Vibhushan had three classes namely Pahela Varg, Dusra Varg and Tisra Varg, which were subsequently renamed as Padma Vibhushan, Padma Bhushan and Padma Shri in 1955.

The awards are conferred by the President of India at ceremonial functions which are held at Rashtrapati Bhavan annually in March or April
The Padma Vibhushan is awarded for exceptional and distinguished service, the Padma Bhushan for distinguished service of high order and the Padma Shri for distinguished service in any field
The awards are announced on the occasion of Republic Day every year
The awards are given in various disciplines/fields of activities, such as art, social work, public affairs, science and engineering, trade and industry, medicine, literature and education, sports and civil service
This year, the President has approved the conferment of 119 Padma awards, which includes 102 Padma Shri awards
Of the 119 awardees, one is a transgender and 29 are women
10 of the awardees are foreigners, non-resident Indians, persons of Indian origin or belong to the Overseas Citizenship of India category
As many as 16 persons have been selected posthumously

Bharat Ratna

- Bharat Ratna is the highest civilian award of the country.
- It is awarded in recognition of exceptional service/performance of the highest order in any field of human Endeavour.
- It is treated on a different footing from Padma Award.

Recommendations for Bharat Ratna

- The recommendations for Bharat Ratna are made by the Prime Minister to the President of India.
- Note: No formal recommendations for Bharat Ratna are necessary.
- Maximum number of Bharat Ratna in a year: The number of Bharat Ratna Awards is restricted to a maximum of three in a particular year. Government has conferred Bharat Ratna Award on 45 persons till date.

Padma Awards

The Padma Awards are one of the highest civilian honours of India usually announced annually on the eve of Republic Day. These awards are conferred by the President of India at ceremonial functions which are held at Rashtrapati Bhawan usually around March/ April every year. The award seeks to recognize achievements in all fields of activities or disciplines where an element of public service is involved. The Awards are given in three categories:

- Padma Vibhushan (for exceptional and distinguished service
- Padma Bhushan (distinguished service of higher order)
- Padma Shri (distinguished service)

The Award

- The awardees are presented a Sanad (certificate) signed by the President and a medallion.
- The recipients are also given a small replica of the medallion, which they can wear during any ceremonial/State functions etc. if the awardees so desire.
- The names of the awardees are published in the Gazette of India on the day of the presentation ceremony.
- The award is normally not conferred posthumously. However, in highly deserving cases, the Government could consider giving an award posthumously.
- The award does not amount to a title and cannot be used as a suffix or prefix to the awardees' name
- Fields/Disciplines eligible for Padma Awards: The Padma award seeks to distinguish works of excellence and is given for and extraordinary achievements in all fields of:
  - Art
  - Social work
  - Public Affairs
  - Science & Engineering
  - Trade & Industry
  - Medicine
  - Literature & Education
  - Civil Service
  - Sports
  - Others (fields not covered above and may include propagation of Indian Culture, protection of Human Rights, Wild Life protection/conservation etc.)

Eligibility for Padma Awards: All persons without distinction of race, occupation, position or sex are eligible for these awards. However, Government servants including those working with PSUs, except doctors and scientists, are not eligible for these Awards.

Recommendations for Padma Award: The Padma Awards are conferred on the recommendations made by the Padma Awards Committee, which is constituted by the Prime Minister every year.

- The Committee is headed by the Cabinet Secretary and includes Home Secretary, Secretary to the President and four to six eminent persons as members.
- The recommendations of the committee are submitted to the Prime Minister and the President of India for approval.

Nomination Process: The nomination process is open to the public. Even self-nomination can be done. **Maximum Number of Padma Awards in a year:** The total number of awards to be given in a year (excluding posthumous awards and to NRI/foreigners/OCIs) should not be more than 120.

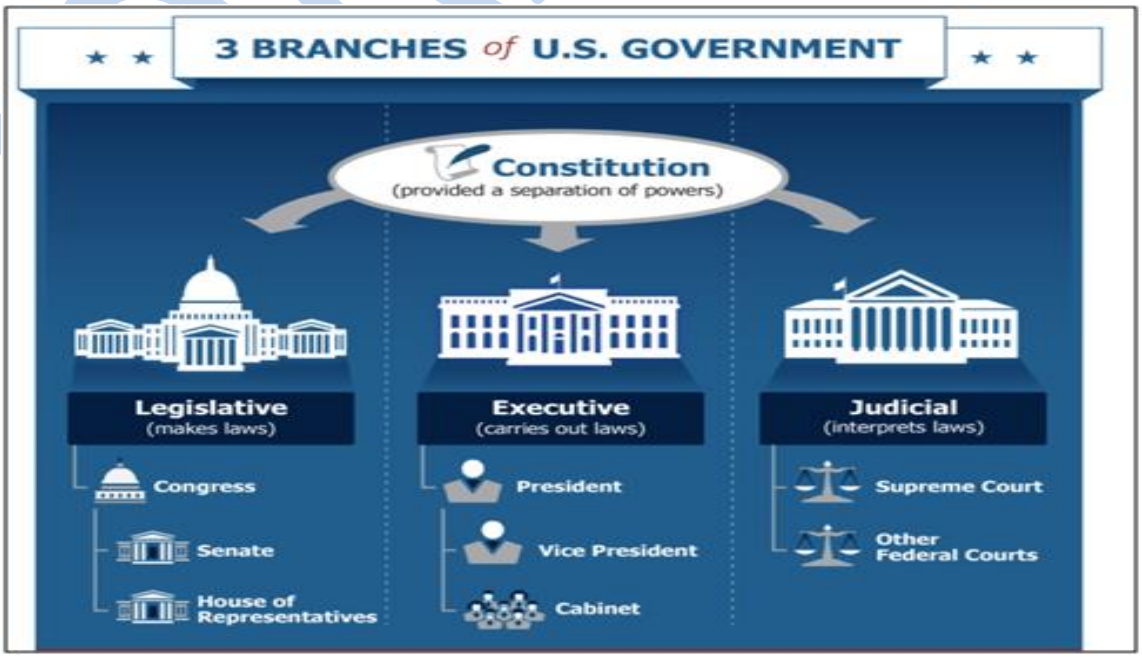
1.5 PRESEDENTIAL SYSTEM

Topic: Comparison of the Indian Constitution Scheme with that of the other countries

Why in News: Joe Biden took oath as the 46th president of the United States on the 20th of January.

Presidential System of Government

- The Presidential system of government is one where the Executive is constitutionally independent of the Legislature, and is not responsible to the legislature.
- The Presidential form of government, unlike the Parliamentary system, is based on separation of powers, not on the fusion of Legislature and the Executive.
- The Presidential system is found, besides the United States of America, in several Latin American countries.



The Executive

- The executive branch includes the president, vice president, the cabinet, executive departments, independent agencies, and other boards, commissions, and committees. The President is the Head of the Government, as is directly elected by the people. The President is also the Head of the State.
- The vice president supports the president, and is elected along with the president.
- If the president is unable to serve, the vice president becomes president.
- The vice president can be elected and serve an unlimited number of four-year terms as vice president, even under a different president.
- Cabinet members are nominated by the president and must be approved by a simple majority of the Senate (51 votes if all 100 Senators vote).

The Legislature

The American Legislature is called the Congress. Its two chambers are:

- The House of Representatives (Lower House)
- The Senate (Upper House)

The Judiciary

- The judicial branch interprets the meaning of laws, applies laws to individual cases, and decides if laws violate the Constitution.
- It is comprised of the Supreme Court and other federal courts.
- The Justices of the Supreme Court are nominated by the president and confirmed by the Senate.

Checks and Balances between the three organs

Each branch of government can change acts of the other branches:

- The president can veto legislation created by Congress and nominates heads of federal agencies.
- Congress confirms or rejects the president's nominees to federal agencies and can remove the president from office in exceptional circumstances.
- The Justices of the Supreme Court can overturn unconstitutional laws, while their appointment is made by the president (after the nominee is confirmed by the Senate).
- This ability of each branch to respond to the actions of the other branches is called the system of checks and balances.

Essential features of this system of government

- President as the real Executive: All the Executive powers are vested in the hands of the President. The President is free to choose his Ministers (called Secretaries) from anywhere.
- Separation of powers: The Executive and the Legislature are independent of each other.
- Non-responsible Executive: The President and his Ministers are not members of Legislature. They are not responsible to Legislature.
- Fixed tenures: The tenure of office cannot be lessened or increased under any circumstances. The President can be removed by the Legislature only by a process of impeachment.
- The Legislature too cannot be dissolved before the expiry of its fixed tenure.

ADD On

Pardoning Power of US President

Just before the completion of his presidential tenure, US President Donald Trump used his clemency (mercy) powers to grant pardons to 73 individuals and commuted the sentences of an additional 70 individuals.

Important Terms

- A **pardon** removes both the sentence and the conviction and completely absolves (frees) the convict from all sentences, punishments and disqualifications.
- **Commutation** refers to the substitution of one form of punishment with a lighter form of punishment. For example, a death sentence may be commuted to rigorous imprisonment.
- **Federal crimes:** The US has a system of federal crimes, which are different from the crimes listed under the state or local laws. Federal crime is one that is prosecuted under federal criminal law (central/national law), and not under a state's criminal law.

US President's clemency powers

- The President of the US has the constitutional right to pardon or commute sentences related to federal crimes. The US Supreme Court has held that this power is "granted without limit" and cannot be restricted by the US Congress.
- The United States Congress is the bicameral legislature of the federal government of the United States and consists of two chambers: the House of Representatives and the Senate.

- The President's power to pardon is a discretionary power, which means that the President is not answerable for his pardons, and does not have to provide a reason for issuing a pardon.

Limits on US President's clemency powers

- As per the US Constitution the President has the power to grant pardons for offences against the United States, except in cases of impeachment.
- Further, the power only applies to federal crimes and not state crimes. Therefore, even if someone is pardoned by the President, he/she can still be investigated under the laws of individual states.

Indian President's power to pardon

- Under Article 72 of the Constitution, the President of India has the power to grant pardons, to suspend, remit (cancel) or commute the sentence of any person convicted of an offence. This also includes the power to pardon a death sentence.
- **However, unlike the US President, whose powers to grant pardons are almost unlimited, the President of India has to act on the advice of the Cabinet.** In several cases, the SC has ruled that the President has to act on the advice of the Union Cabinet while deciding mercy pleas.

Procedure to grant pardon by India's President

The President has to forward the mercy plea to the Home Ministry, seeking the Cabinet's advice. The Ministry in turn forwards this to the concerned state government and based on the reply from the State government, the Home Ministry formulates its advice on behalf of the Union Cabinet.

Although the President is bound by the Cabinet's advice, Article 74(1) empowers the President to return the plea for reconsideration once. If the Cabinet decides not to change the earlier decision, the President has no option but to accept it.

Governor's power to pardon

Under Article 161 of the Constitution of India, the Governor too has the power to grant pardons, to suspend, remit (cancel) or commute the sentence of a person convicted for an offence.
However, the scope of the pardoning power of the President under Article 72 is wider than the pardoning power of the Governor under Article 161.

INTERNATIONAL RELATIONS

Paper II (GS): All the Articles of this section are relevant to the following topics:

- **India and its Neighbourhood – Relations**
- **Bilateral, Regional and Global Groupings and Agreements involving India and / or affecting India's Interests**
- **Prelims Oriented Questions and Places in News for Maps/ Matching**

IQRA IAS

2.1 OPEN SKY TREATY

Why in News: Recently, Russia pulled out of the Open Skies Treaty (OST) citing earlier withdrawal of the USA from the treaty.

- According to Russia, provisions of the pact that allows unarmed surveillance flights over member countries had been seriously compromised by the withdrawal of the United States.
- This move was made after the USA pulled out of the Open Skies Treaty in November 2020, arguing that Russian violations made it untenable for the United States to remain a party.

Open Sky Treaty

- The treaty was initially proposed to in 1955 by US President Dwight D. Eisenhower but was rejected by the Soviets (USSR).
- In 1989, the Open Skies concept was reintroduced by President George H. W. Bush as a means to build confidence and security between all North Atlantic Treaty Organisation (NATO) and Warsaw Pact countries.
- In February 1990, an international Open Skies conference involving all NATO and Warsaw Pact countries opened in Ottawa, Canada. Subsequent rounds of negotiations were held and in 1992, the Open Skies Treaty was signed in Helsinki.
- The treaty entered into force in 2002, after Russia and Belarus completed ratification procedures.
- The Open Skies Treaty establishes a program of unarmed aerial surveillance flights over the entire territory of its participants. The treaty is not related to civil-aviation open skies agreements.
- It is designed to enhance mutual understanding and confidence by giving all participants, regardless of size, a direct role in gathering information about military forces and activities of concern to them.
- It is one of the most wide-ranging international efforts to date promoting openness and transparency of military forces and activities.
- The Open Skies Consultative Commission is the implementing body for the Treaty on Open Skies. It comprises representatives from each state party to the treaty and meets monthly at the Vienna headquarters of the Organization for Security and Co-Operation in Europe.

Territory Covered

- The Open Skies regulations covers the territory over which the parties exercise sovereignty, including mainland, islands, and internal and territorial waters.
- The treaty specifies that the entire territory of a member state is open to observation and observation flights may only be restricted for reasons of flight safety and not for reasons of national security.

Open surveillance: Under the treaty, a member State can undertake surveillance on any part of the host nation, with the latter's consent.

- Only approved imaging equipment is permitted on the surveillance flights.
- Officials from the host state can also stay on board throughout the planned journey.
- Sharing strategic information: The information gathered, such as on troop movements, military exercises and missile deployments, has to be shared with all member States
- Both USA and Russia were signatories of the treaty.
- India is not a member of this treaty.

Reasons for USA Withdrawal

- Russia's continuous non compliance: The USA had for over a decade accused Russia of non-compliance with OST protocols, blaming Moscow of obstructing surveillance flights on its territory, while misusing its own missions for gathering key tactical data.
- OST misused to claim Ukrainian region: The USA also accused Russia of designating an airfield in the annexed Crimean Peninsula as an Open Skies refueling base as an illegal attempt by Russia to cement its claim to the Ukrainian region.
- Risk to critical infrastructures: Russia misused its flights over the USA and Europe to identify critical infrastructure for potential attack in a time of war.

Reasons for Russia Withdrawal

- USA limiting OST: Russia defends its non compliance with the OST to allow flights over Kaliningrad (Russian exclave in Eastern Europe that lies between NATO allies Lithuania and Poland) citing the example of the US imposing similar limits on flights over Alaska.
- No assurance from NATO members: After USA withdrawal from OST, Russia did not get the sought assurance from North Atlantic Treaty Organization (NATO) allies who continued to remain on the treaty that they would not transfer data collected by their flights over Russia to Washington (USA).

Russia's departure could adversely impact Washington's European allies, which rely on OST data to track Russian troop movements in the Baltic region.

The failure of the Open Skies Treaty follows the demise of another significant arms control accord, the Intermediate-Range Nuclear Forces (INF) Treaty, after both the US and Russia left it in 2019. This treaty aimed at eliminating their stocks of intermediate-range and shorter-range (or "medium-range") land-based missiles which could carry nuclear warheads.

Withdrawal of the USA and Russia from OST has further deepened doubts on extension of the New START treaty, which expires in February, 2021.

Growing mistrust between global powers could make it difficult for India to maintain good mutual relationships with both the countries if the hostility escalates in future.

2.2 UNSC

Why in News: India began its two-year tenure as a non-permanent member of the United Nations Security Council (UNSC) on January 01, 2021.

United Nations Security Council (UNSC)

- The United Nations Charter established six main organs of the United Nations, including the UN Security Council (UNSC).
- UNSC has the primary responsibility for the maintenance of international peace and security. Under the Charter of the United Nations, all Member States are obligated to comply with Council decisions. The Security Council takes the lead in determining the existence of a threat to the peace or act of aggression.

Powers

- Establishment of peacekeeping operations
- Establishment of international sanctions
- Authorization of military action through Security Council resolutions
- The Security Council has permanent residence at the United Nations Headquarters in New York City.

Members

The U.N. Charter provides for 15 members on the UNSC

- 5 permanent members known as P5, including United Kingdom, China, France, Russia and the US. They have veto power over decisions of UNSC.
- 10 non-permanent members

UNSC non-permanent membership

- Each year the 193-member General Assembly elects five non-permanent members for a two-year term at the UNSC.
- The 10 non-permanent seats are distributed on a regional basis:
  - Five from African and Asian countries (3 are for Africa and 2 for Asia)
    - Note: There is an informal understanding between the Africa and Asia to reserve one for an Arab country. The Africa and Asia-Pacific group takes turns every two years to put up an Arab candidate.
  - One from Eastern European countries
  - Two from Latin American and Caribbean countries
  - Two from Western European and other countries

Election procedure for non-permanent members

Following an amendment to the UN Charter which came in to force in 1965, the General Assembly increased the number of non-permanent members of the Security Council from 6 to 10. The Assembly also decided that the non-permanent members of the Council should be elected according to the following pattern:

- Five from African and Asian States
- One from Eastern European States
- Two from Latin American States
- Two from Western European and other States.

Based on the rules of the procedure, each year the General Assembly elects five non-permanent members of the Security Council. The non-permanent members of the Security Council are elected by a two-thirds majority and there are no nominations. Further, a retiring member is not eligible for immediate re-election.

News Update

In June, 2019, India was elected as a non-permanent member of the UN Security Council for a two year tenure starting from 1st January, 2021. Before the current tenure, India has been a non-permanent member of the Council for seven times, most recently in 2011-2012.

Along with India, Norway, Kenya, Ireland and Mexico also began their tenure as non-permanent members. The other 5 existing non-permanent members are Estonia, Niger, Saint Vincent and the Grenadines, Tunisia and Vietnam.

Tasks India would take up during its tenure

In a note, India said that, as the world's largest democracy, it will be promoting fundamental values like democracy, human rights and development during its tenure at the UNSC.

Meanwhile, India has also been at the forefront of years-long efforts to reform the UN Security Council. In a document released at the time of its election in June, India noted that the normal process of international governance has been under increasing strain, as traditional and non-traditional security challenges continue to grow unchecked. It further states that unreformed and under-representative global institutions and the COVID-19 pandemic and its economic impact would increase challenges for the UNSC.

Thus, India's overall objective during this tenure in the UN Security Council will be the achievement of O.R.M.S: a New Orientation for a Reformed Multilateral System. **India will follow the Five-S approach of**

- **Samman (Respect)**
- **Samvad (Dialogue)**
- **Sahyog (Cooperation)**
- **Shanti (Peace)**
- **To create conditions for universal Samriddhi (Prosperity)**

It will highlight international terrorism, United Nations reforms and Security Council expansion and will look forward to streamline the world body's peacekeeping operations and technology initiatives during its upcoming tenure.

2.3 INDIA-GERMANY RELATIONS

Why in News: Prime Minister Narendra Modi recently held a video-conference with German Chancellor Angela Merkel.

India-Germany Relations

• India was amongst the first countries to establish diplomatic ties with Germany after the Second World War. Today, Germany is amongst India's most important partners both bilaterally and in the global context.

- India and Germany have a 'Strategic Partnership' since 2001, which has been further strengthened with the launch of Intergovernmental Consultations (IGC) in 2011 at the level of Heads of Governments. India is amongst a select group of countries with which Germany has such a dialogue mechanism.

• There is an Indo-German Parliamentary Friendship Group, in German Bundestag (lower house of German Parliament) since 1971.

Defence Cooperation

• The India-Germany Defence Cooperation Agreement (2006) provides the framework for bilateral defence cooperation.

• To further enhance the defence industry and defence cooperation between Germany and India, an Arrangement on Implementation of the Agreement of 2006 concerning Bilateral Defence Cooperation was signed in 2019.

Economic & Commercial Relations

• Germany is India's largest trading partner in Europe and India ranked 24th in Germany's global trade during 2019.

• India's exports were Euro 9.38 billion and imports were Euro 11.93 billion. Germany is the 7th largest foreign direct investor in India since 2000. Germany's total FDI in India from 2000 until March 2020 amounted to US$ 12.19 billion.

• A fast-track system for German companies has been operating in Department for Promotion of Industry and Internal Trade (DPIIT) since 2016. India and Germany have also set up a fast-track system in 2019 for Indian companies in Germany.

Cooperation in Science & Technology

• Indo-German Science & Technology cooperation started with the signing of the Intergovernmental S&T Cooperation Agreement in 1971 and 1974.

• There are more than 150 joint S&T research projects and 70 direct partnerships between Universities of both countries.

• India's scientific establishments have close partnerships with German R&D institutions, including the Max Planck Society, Fraunhofer Laboratories and the Alexander von Humboldt Foundation

Cultural relations

• India and Germany have a long tradition of academic and cultural exchange. Max Mueller was the first scholar of Indo-European languages to translate and publish the Upanishads and the Rigveda.

• There has been growing interest in Germany in Indian dance, music and literature, as well as motion picture and TV industry.

Indian Diaspora in Germany

• In 2018, there were about 1.7 lakh Indians and people of Indian origin in Germany. The Indian Diaspora mainly comprises of professionals, technocrats, businessmen/traders and nurses and there are a number of Indian associations in Germany.

• In 2018, more than 17,000 Indian students were pursuing various courses in Germany.

Highlights of the video-conference

• The two leaders discussed key issues of mutual importance, including the response to the Covid-19 pandemic, bilateral ties, regional and global issues, particularly India-EU relations. PM appreciated the role of Chancellor Merkel in providing stable and strong leadership at the European and global stage, and thanked her for guiding the growth of the India-Germany Strategic Partnership.

• He also welcomed Germany's decision to join the International Solar Alliance (ISA), and expressed his desire to further strengthen cooperation with Germany under the platform of **Coalition for Disaster Resilient Infrastructure (CDRI).**

• He shared the progress on vaccine development in India and assured Chancellor Merkel of India's commitment to use its capacities for the benefit of the world.

• Noting that this year marks the 70th anniversary of setting up bilateral relations between India and Germany and 20th anniversary of the Strategic Partnership, the two leaders agreed to hold the sixth Inter-Governmental Consultations (IGC) at an early date in 2021.

Coalition for Disaster Resilient Infrastructure (CDRI)

• The Coalition for Disaster Resilient Infrastructure (CDRI) is an international coalition of countries, United Nations (UN) agencies, multilateral development banks, the private sector, and academic institutions that aims to promote disaster-resilient infrastructure.

- It was launched by the Indian Prime Minister Narendra Modi at the 2019 UN Climate Action Summit.

• It aims to achieve substantial changes in member countries' policy frameworks and future infrastructure investments, along with a major decrease in the economic losses suffered due to disasters.

• As of March 2020, the CDRI comprises 15 member countries and three knowledge and development partners.

• The three knowledge and development partners are: United Nations Office for Disaster Risk Reduction (UNDRR), United Nations Development Program (UNDP) and World Bank.

2.4 INDIA-CHINA

Why in News: India's External Affairs Minister (EAM) had outlined an 8-pt framework for repairing China ties.

News Update

- India's External Affairs Minister (EAM) delivered the keynote address at the All India Conference of China Studies.
- There he commented on the strained relations between China and India, and how they can be brought back on track.
- He said that the 2020 boundary crisis has significantly impacted the relationship. It violated the 2017 understanding between Modi & Xi to not to allow differences to become disputes, and to enhance the factors of stability in the relationship.
- He pointed that the Chinese actions in 2020 disregarded the commitments about minimizing troop levels, and indicated China's willingness to breach peace & tranquility at the border.

MEA's summary of Indo-China relations

Areas of cooperation in the recent years:

- MEA noted that before 2020, the India-China relationship witnessed decisions and events that reflected the duality of cooperation and competition. Trade grew dramatically, though it's one-sided nature made it increasingly controversial.
- In sectors like power and telecom, Chinese companies obtained access to the Indian market.
- The number of Indian students in China grew, as indeed did Indian tourists who visited there.
- In the global arena, India-China made common cause on some developmental and economic issues. Common membership of Multi lateral groups was also a meeting point.

Way ahead for improvement in Indo-China relations

The three Mutual's:

MEA said the fundamental principles governing India-China ties should be "mutuality." He highlighted the determining factors as three mutual:

- Mutual Respect
- Mutual Sensitivity
- Mutual Interests

Eight point framework

MEA said Indo-China relations cannot carry on undisturbed despite the situation at the border. He set out an eight point framework for steps China needs to take to repair bilateral ties with India.

- First and foremost, agreements already reached must be adhered to in their entirety, both in letter and spirit.
- Where the handling of the border areas are concerned, the LAC must be strictly observed and respected; any attempt to unilaterally change the status quo is completely unacceptable.
- Peace and tranquility in the border areas is the basis for development of relations in other domains. If they are disturbed, the rest of the relationship will be disturbed.
- While both nations are committed to a multi-polar world, there should be recognition that a multi-polar Asia is one of its essential constituents.
- While each state will have its own interests, concerns and priorities, they must be sensitivity on both sides about the others' concerns. It must be kept in mind that relationships between major states are reciprocal in nature.
- As rising powers, each will have their own set of aspirations and their pursuit too cannot be ignored.
- There will always be divergences and differences but their management is essential to our ties.
- India and China must always take the long view.

SECURITY AND DEFENCE

❖ **Paper III: This section is relevant to the following topics:**

- **Linkages between development and spread of extremism.**
- **Role of external state and non-state actors in creating challenges to internal security.**
- **Challenges to internal security through communication networks, role of media and social networking sites in internal security challenges, basics of cyber security; money-laundering and its prevention**
- **Security challenges and their management in border areas; linkages of organized crime with terrorism**
- **Various Security forces and agencies and their mandate**

❖ **Prelims Oriented Questions**

3.1 LIGHT COMBAT AIRCRAFT(LCA)

Why in News: In the biggest-ever indigenous military deal, the cabinet committee on security (CCS) cleared the procurement of 73 improved LCA Tejas fighters and 10 trainers.

Light Combat Aircraft (LCA)

- A Light combat aircraft is a light multirole jet military aircraft, most coming from advanced trainers that have been modified or designed for engaging in light combat missions, either in light strike or attack missions, reconnaissance or interdiction roles.
- They are also slower than their bigger counterparts and most are only capable of subsonic speeds though some are capable of reaching mach 1+.
- Although equipped with either guns or short range air-to-air missiles it is usually for self-defense purpose or anti-hostile aircraft/helicopter missions not for air defense as lightweight fighters do.
- However, they can still be used to patrol the skies and implement border patrol or air policing.

LCA Tejas

- HAL Tejas is an Indian single-engine, multirole light fighter designed by the Aeronautical Development Agency (ADA) and Hindustan Aeronautics Limited (HAL) for the Indian Air Force and Indian Navy.
- It came from the Light Combat Aircraft (LCA) program, which began in the 1980s to replace India's ageing MiG-21 fighters and was officially named Tejas in 2003.
- It is the smallest and lightest in its class of contemporary supersonic combat aircraft, and is developed in both fighter and trainer versions.
- It integrates technologies such as relaxed static stability, fly-by-wire flight control system, multi-mode radar, integrated digital avionics system and composite material structures.
- 40 LCA Mark-1 jets were ordered for the IAF and are in various stages of induction.

LCA Mk-1A

HAL has worked towards developing an improved LCA Mk-1A jet with improvement over Mark-1 jets including:

- Improved maintainability AESA (active electronically scanned array) radar to replace existing mechanically-steered radar

- Air-to-air refueling
- Long-range BVR (beyond visual range) missiles
- Advanced electronic warfare to jam enemy radars and missiles

Background

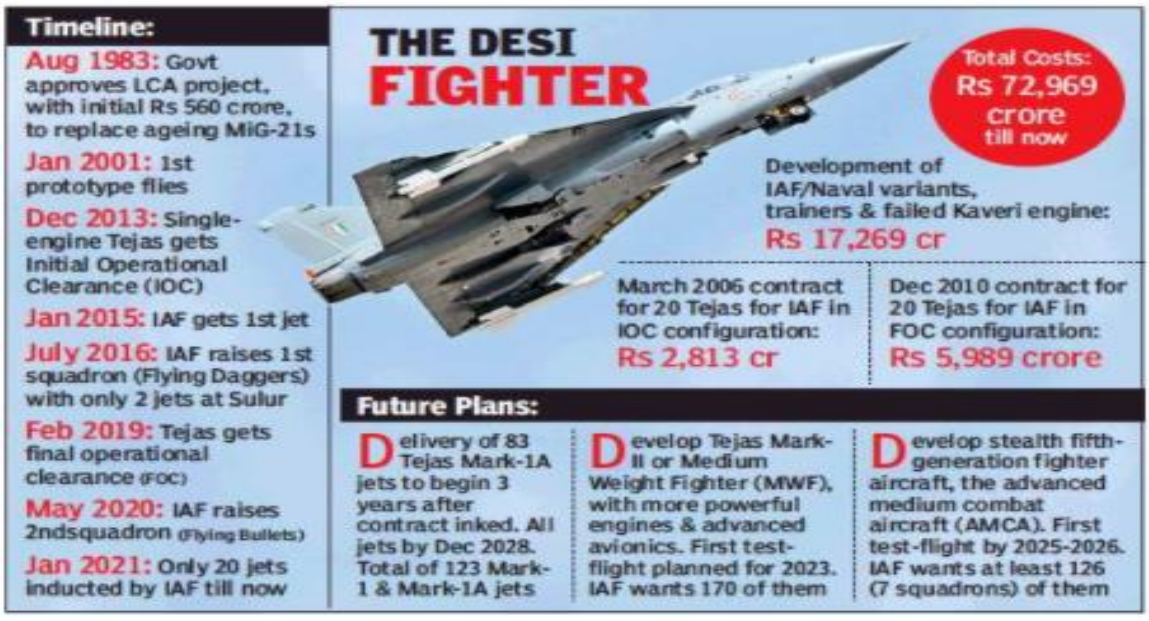
- In March 2020, the Defence Acquisition Council (DAC) chaired by Defence Minister accorded approval for the procurement of 83 indigenous Light Combat Aircraft (LCA) Tejas Mk-1A from the Hindustan Aeronautics Ltd. (HAL).
- The 83 LCA-MK1A jets are in addition to the 40 LCA-Mk1 jets already ordered by the IAF.
- The proposal was placed for consideration of the Cabinet Committee on Security (CCS).

News Update

In the biggest-ever indigenous military deal, the CCS cleared the procurement of 83 improved LCA Tejas Mk-1A for IAF. These Tejas Mark-1A fighters will have 43 improvements over the 40 Tejas Mark-1 jets ordered by the IAF earlier. The Rs 46,898 crore procurement from defence PSU Hindustan Aeronautics Limited (HAL) includes:

- 73 improved LCA Tejas fighters
- 10 LCA trainers

Under the deal, deliveries of the single-engine Tejas Mark-1A jets will begin in three years. All 83 jets are slated for delivery in the January 2024-December 2028 timeframe. The LCA-Tejas is expected to be the backbone of the IAF fighter fleet in the years to come.


Timeline:
Aug 1983: Govt approves LCA project, with initial Rs 560 crore, to replace ageing MiG-21s
Jan 2001: 1st prototype flies
Dec 2013: Single-engine Tejas gets Initial Operational Clearance (IOC)
Jan 2015: IAF gets 1st jet
July 2016: IAF raises 1st squadron (Flying Daggers) with only 2 jets at Sulur
Feb 2019: Tejas gets final operational clearance (FOC)
May 2020: IAF raises 2ndsquadron (Flying Bullets)
Jan 2021: Only 20 jets inducted by IAF till now
THE DESI FIGHTER
Total Costs: Rs 72,969 crore till now
Development of IAF/Naval variants, trainers & failed Kaveri engine: Rs 17,269 cr
March 2006 contract for 20 Tejas for IAF in IOC configuration: Rs 2,813 cr
Dec 2010 contract for 20 Tejas for IAF in FOC configuration: Rs 5,989 crore
Future Plans:
Delivery of 83 Tejas Mark-1A jets to begin 3 years after contract inked. All jets by Dec 2028. Total of 123 Mark-1 & Mark-1A jets
Develop Tejas Mark-II or Medium Weight Fighter (MWF), with more powerful engines & advanced avionics. First test-flight planned for 2023. IAF wants 170 of them
Develop stealth fifth-generation fighter aircraft, the advanced medium combat aircraft (AMCA). First test-flight by 2025-2026. IAF wants at least 126 (7 squadrons) of them

Significance

On defence preparedness

- The deal will greatly help boost the fighter jet numbers considering the fast-depleting number of fighter squadrons in the beleaguered IAF (due to retirement of old jets).
- IAF is banking upon these 123 Tejas (40 current and 83 newly ordered) to add to the strength of its fighter squadrons, which is down to just 30 (each has 16-18 jets).
- It is estimated that at least 42 fighter squadrons are required for the requisite deterrence against the combined threat from China and Pakistan.

On domestic defence manufacturing

This comes as a huge boost to the fledgling domestic military production sector, with working with almost 500 big and small companies to meet the order.

Increase in indigenous content

While Tejas Mark-1A fighter still has 50% imported parts, including the all-important engine, the defence minister said the indigenous content level will go up to 60% by the time the 83rd jet rolls out.

3.2 No First Use Nuclear Doctrine

Why in News: This year, India's NDRF is expected to obtain the globally recognised INSARAG standardization. Once it does, India could be a part of the United Nations (UN) mandated international disaster rescue operations.

National Disaster Response Force (NDRF)

Origin

The National Disaster Management Act in 2005 laid down a legal framework for disaster response at the national, state and district level. The Act provided for the formation of the National Disaster Response Force (NDRF).

NDRF

The NDRF was constituted under Section 44 of the Disaster Management Act, 2005 for a specialized response to natural and man-made disasters. The NDRF is equipped and trained to handle a range of difficulties, from bore well accidents to chemical, biological and radioactive

emergencies. It is functioning under the Ministry of Home Affairs, Government of India, within the overall command, control and leadership of the Director General, NDRF.

Strength

The NDRF gets personnel and officers on deputation from the CAPF for a period of seven years. After serving their tenure, the personnel go back to their force. At present, National Disaster Response Force consists of 12 battalions with following composition-3 battalions from the BSF3 battalions from CRPF2 battalions from CISF2 battalions from ITBP2 battalions from SSB.

Structure of NDRF

Battalions are divided into rescue teams which are self-contained emergency response units with specialist search and rescue groups, engineering, technical, electrical experts along dog squads and paramedics.

Working Strategy

NDRF officials believe in the strategies of preemptive availability and pre-positioning of teams anticipating emergency situations, facilitated by nationwide presence of its battalions. In many cases, NDRF teams have been airlifted by the Indian Air Force (IAF) for deployment.

Training of NDRF Personnel

After personnel and officers are deputed to the NDRF, they undergo a first responder course for five months. Subsequently, sections of personnel get advanced specialised training in deep diving, special search and rescue, collapsed structure search and rescue, Chemical Biological Radiological Nuclear emergencies and also psycho-social intervention.

Some of the personnel further undergo specialised training with national and international institutions including those on chemical and biological warfare situations. There are some very specific and specialised training modules like the bore well rescue course because of a number of incidents across India where children fall into uncovered bore wells.

Examples of NDRF Operations

Domestic Operations: The agency has conducted relief, rescue, and evacuation operations during all the major natural or man-made disasters in the country, including floods, cyclones, earthquakes, landslides, structure collapses and even some cases of retrieval or radiological materials. NDRF teams have also responded to road and train accidents, and also boat capsizes.

International Operations: The NDRF has received global appreciation for aiding Japan in 2011, when it was struck by an earthquake, tsunami and a nuclear emergency. It was also praised for its efforts in the 2015 Nepal earthquake.

INSARAG Standardisation certification

Switzerland-based INSARAG (International Search and Rescue Advisory Group) is a network of more than 90 countries and organizations under the UN umbrella to deal with urban search and rescue related issues.

INSARAG standardises disaster response teams across the world. It is an international gold standard.

A INSARAG committee, comprising Australian and Singaporean experts, has conducted preliminary review of NDRF teams in September, 2019, but the outbreak of COVID-19 pandemic delayed the completion of the process. In 2021, India's NDRF is expected to obtain the globally recognised INSARAG standardisation.

Once it does, India could be a part of the United Nations (UN) mandated international disaster rescue operations.

Significance

Prestige: It will be a matter of great prestige for India that its force is known as an international response force. It adds to the profile of India being a great disaster response oriented country where the protocols and standard operating procedures are of world standard.

Be part of UN disaster response operations: Even now, India takes part in some international rescue operations. But when NDRF took part in international operations in Japan and Nepal, it was a bilateral decision between two countries.

Whenever there is a call from the UN to respond to some disaster, those with INSARAG standardisation will be called upon. With INSARAG standardisation, participation of NDRF be a UN mandated task.

Further, state teams could also be certified: Besides, NDRF's standardisation could lead to a cascading effect where NDRF can become a national accreditation agency for state disaster response forces. For example, in Chile and China, the UN has certified their provincial teams so that state teams can also travel across the world for disaster response operations.

ECONOMY

❖ **Paper III: The articles in this section are relevant to the following topics:**

- **Indian Economy and issues relating to planning, mobilization of resources, growth, development and employment.**
- **Inclusive growth and issues arising from it.**
- **Government Budgeting.**
- **Effects of liberalization on the economy, changes in industrial policy and their effects on industrial growth.**
- **Infrastructure: Energy, Ports, Roads, Airports, Railways etc.**
- **Investment models.**
- **Agriculture**

IQRA IAS

4.1 ETHANOL DISTILLATION

Why in News: The Union Cabinet has approved a modified scheme to increase ethanol distillation capacity in the country for producing 1st Generation (1G) ethanol.

Ethanol and molasses

- Ethanol, can be produced from sugarcane, maize, wheat, etc. which have high starch content and is a liquid that has several uses.
- At 95% purity, it is called rectified spirit and is used as the intoxicating ingredient in alcoholic beverages. At 99%-plus purity, ethanol is used for blending with petrol. Both products are made from molasses, a byproduct of sugar manufacturing.
- For making sugar, mills crush sugarcane which typically has a total fermentable sugars (TFS) content of 14%. Most of this TFS component gets crystallised into sugar, and the remaining part is called molasses.

Ethanol Blending

- The use of ethanol as an automobile fuel is as old as the invention of the internal combustion engine itself.
- As the ethanol molecule contains oxygen, it allows the engine to burn the fuel properly, which results in fewer emissions.
- Since ethanol is produced from plants that use the power of the sun, it is also considered a renewable fuel.

Ethanol Blended Petrol (EBP) Program

- Ethanol Blended Petrol (EBP) program was launched in 2003. The program was launched to promote the use of alternative and environment friendly fuels and to reduce import dependency for energy requirements.
- The government has set targets of 10% ethanol blending of petrol by 2022, 15% blending by 2026 & 20% blending by 2030.

Ethanol distillation capacity in India

Status of sugar production in India: There has been surplus production of sugar in the country since 2010-11. In normal sugar season (October- September) about 320 Lakh Metric Tonnes (LMT) of sugar is produced and the domestic consumption is around 260 LMT.

- This surplus sugar of 60 LMT in normal sugar season puts pressure on domestic ex-mill prices of sugar. The excess stocks remain unsold and blocks funds of sugar mills worth around Rs 19,000 crore.
- To deal with surplus stocks of sugar, sugar mills have been exporting sugar, for which the government has been giving financial assistance.
- Since, India is a developing country; it can export sugar through government's financial assistance only up to year 2023 as per WTO arrangements. Hence, the government has planned to divert excess sugarcane and sugar for ethanol production to deal with surplus stocks.

Insufficient distillation capacity

However, the existing ethanol distillation capacity in the country is not sufficient to divert surplus stocks of sugar & to produce ethanol to supply to Oil Marketing Companies (OMCs) for blending with petrol.

Till year 2014, ethanol distillation capacity of molasses based distilleries was less than 200 crore liters. However, in past 6 years the capacity of molasses based distilleries have more than doubled and are currently at 426 crore liters. In ethanol supply year (ESY) 2013-14, supply of ethanol to OMCs was less than 40 crore liters with blending levels of only 1.53 %.

However, production of fuel grade ethanol and its supply to OMCs has increased by more than 4 times in the past 6 years. In order to achieve the blending targets, the government is making efforts to further double the ethanol distillation capacities in the country by 2024.

News Update

The Union Cabinet has approved a modified scheme to increase ethanol distillation capacity in the country for producing 1st Generation (1G) ethanol from feed stocks such as cereals (rice, wheat, barley, corn & sorghum), sugarcane, sugar beet etc.

Modified scheme to increase distillation capacity

Under the modified scheme to increase distillation capacity in the country, interest subvention of Rs 4,573 crore will be given for new distilleries producing ethanol. Interest subvention would be available to only those distilleries which will supply at least 75% of ethanol produced from the added distillation capacity to OMCs for blending with petrol.

Government would bear interest subvention for five years including one year moratorium against the loan taken by distilleries, at 6 per cent per annum or 50 per cent of the rate of interest charged by banks, whichever is lower.

Interest subvention is the subsidy offered on interest rates on a loan. Thus, the government pays part of the interest on a loan. **A moratorium** is a period during repayment of loan when the borrower does not have to make a payment.

Benefits of the scheme

The scheme would increase production of ethanol from various feed stocks and facilitate in achieving blending targets of ethanol with petrol.

It would help to promote ethanol as a fuel which is indigenous and help to improve the environment, due to lower emissions. It will also result in savings in the oil import bill and will also ensure timely payment of dues to farmers.

4.2 PM FASAL BIMA YOJANA

Why in News: Prime Minister Narendra Modi has congratulated all the beneficiaries of PM Fasal Bima Yojana on completion of 5 years.

Pradhan Mantri Fasal Bima Yojana (PMFBY)

- Pradhan Mantri Fasal Bima Yojana (PMFBY) was approved by the union cabinet in January 2016, and launched from Kharif 2016.
- Its aim to support production in agriculture by providing an affordable crop insurance product to ensure comprehensive risk cover for crops of farmers against all non-preventable natural risks from pre-sowing to post-harvest stage.

Features of the Scheme

Small Premium Paid by Farmers

- There is a uniform premium of only 2% to be paid by farmers for all Kharif crops and 1.5% for all Rabi crops.
- In case of annual commercial and horticultural crops, the premium to be paid by farmers will be only 5%.
- The balance premium will be paid by the Government to provide full insured amount to the farmers against crop loss on account of natural calamities.
- Until Rabi 2019-2020, there was no upper limit on Central Government subsidy which implies that even if balance premium is 90%, it will be borne by the Government.

- However, in February 2020, the Cabinet decided to cap the Centre's premium subsidy under these schemes for premium rates up to 30% for unirrigated areas/crops and 25% for irrigated areas/crops.

Food Products Covered

PMFBY is applicable to:

- Annual commercial or annual horticultural crops;
- Oilseeds
- Food crops (Cereals, Millets and Pulses)
- Risks Covered
- Local natural calamities like landslides, hailstorms, etc.
- Calamities leading to loss of yield like natural fire and lightning, floods, dry spells droughts, cyclones, pests and diseases.
- Post harvest losses of crops can also be covered under this scheme. Coverage is available for those crops which are kept in "cut & spread" condition to dry in the field after harvesting, against specific perils of cyclone / cyclonic rains, unseasonal rains throughout the country.
- Localized losses are also covered under PMFBY. Loss and damage resulting from occurrence of identified localized risks i.e. hailstorm, landslide, and Inundation affecting isolated farms in the notified area.

Exclusions under PMFBY

War & kindred perils, nuclear risks, riots, malicious damage, theft, act of enmity, grazed and/or destroyed by domestic and/or wild animals.

Farmers Covered and Exclusions

Compulsory Coverage for Loan Farmers till 2019-20 Rabi

All farmers taking seasonal agricultural operations/Kisan Credit Card loans from banks were covered compulsorily under PMFBY/WBCIS, with their premium contributions automatically deducted and remitted to insurance companies.

Voluntary coverage may be obtained by all farmers not covered above, including Crop KCC/Crop Loan Account holders whose credit limit is not renewed. Presently Voluntary Coverage for both Loan & Non-Loan Farmers. However, now the scheme has been made voluntary in nature for all the farmers, irrespective of if they are availing seasonal agricultural loans from banks.

Unit of Insurance

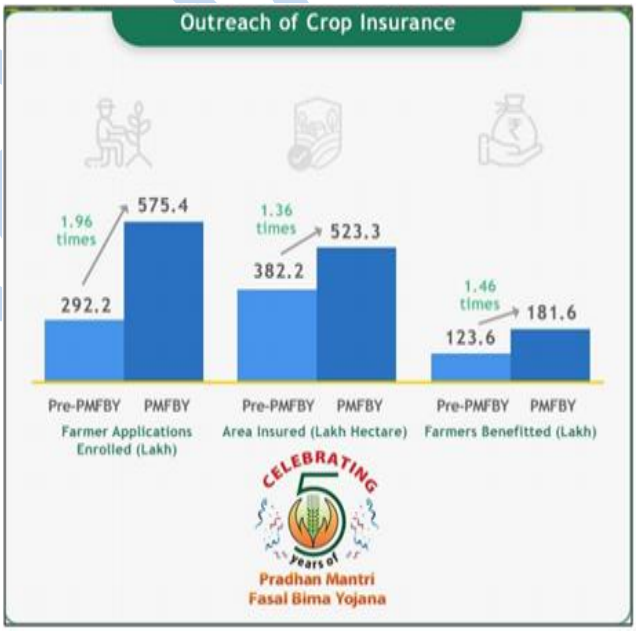
The Scheme shall be implemented on an 'Area Approach basis' i.e. 'defined areas' for each notified crop for widespread calamities. In this approach, the assumption is that all the insured farmers in 'Notified Area' for a crop, face similar risk exposures, incur to a large extent, identical cost of production per hectare, earn comparable farm income per hectare, and experience similar extent of crop loss due to the operation of an insured peril, in the notified area.

News Update

Prime Minister Narendra Modi has congratulated all the beneficiaries of PM Fasal Bima Yojana on completion of 5 years.

Scheme's stats

A total of Rs. 90, 000 Crore have been paid as claims to farmers till now. The total new farmer applications received has been over 28 crores in the last 5 years.



Agriculture Minister's review of the scheme

On the occasion, Union Agriculture Minister interacted with stake-holders across the country via video conferencing. He congratulated the state governments, banks and insurance companies for successful implementation of the scheme throughout the country. He cited some

notable examples of instances where the scheme was able to safeguard the interests of farmers, such as disbursements of claims during:

- Dry spell in Andhra Pradesh and Karnataka
- Hailstorms in Haryana
- Locust attack in Rajasthan in 2019

All the stakeholders discussed key features of the scheme such integration of land records with the PMFBY portal, Crop Insurance mobile-app, satellite imagery, remote-sensing technology for robust coverage around the country. The Union Agriculture Minister said that there is a need to raise awareness about the Pradhan Mantri Fasal Bima Yojana so that many more farmers can take advantage of the scheme.

4.3 PM KAUSHAL VIKAS YOJANA 3.0

Why in News: The Ministry of Skill Development and Entrepreneurship (MSDE) has launched the third phase of Pradhan Mantri Kaushal Vikas Yojana (PMKVY) or PMKVY 3.0.

Pradhan Mantri Kaushal Vikas Yojana (PMKVY)

It is the flagship scheme for skill training of youth being implemented by the Ministry of Skill Development and Entrepreneurship (MSDE) through the National Skill Development Corporation (NSDC).

The objective of the scheme is to enable a large number of Indian youth to take up industry relevant skill training that will help them in securing a better livelihood. Skill training would be done based on the National Skill Qualification Framework (NSQF) and industry led standards.

PMKVY 1.0

PMKVY 1.0 was launched in July 2015 with the objective of encouraging skill development for youth by providing monetary rewards for successful completion of approved training programs during the period 2015-16. The National Skill Development Corporation (NSDC) was the designated implementing agency of this scheme.

PMKVY 1.0 was a target-based scheme, and during this pilot phase in 2015-16, about 20 lakh candidates were trained.

PMKVY 2.0

After the successful implementation of pilot PMKVY 1.0 during 2015-16, PMKVY 2.0 (2016-20) was launched. PMKVY 2.0 involved scaling up of the scheme both in terms of Sector and

Geography and by greater alignment with other missions of Government of India. It has been instrumental in bolstering the skilling ecosystem.

PMKVY 2.0 broadened the skill development with key components being

- Short Term Training (STT) at PMKVY Training Centers (TCs) aimed towards the candidates who are either school/college dropouts or unemployed
- Recognition of Prior Learning (RPL): Individuals with prior learning experience or skills are assessed and certified under the RPL component of the Scheme. RPL aims to align the competencies of the unregulated workforce of the country to the NSQF
- Special Projects: This component of PMKVY envisages encouraging trainings in special areas and premises of Government bodies, corporate / industry bodies. These are the projects which may require some deviation from the terms and conditions of Short-Term Training under PMKVY.

The scheme was implemented through two components:

Centrally Sponsored Centrally Managed (CSCM)

- This component is implemented by National Skill Development Corporation.
- 75% of the PMKVY 2016-20 funds and corresponding physical targets have been allocated under CSCM.

Centrally Sponsored State Managed (CSSM)

- This component is implemented by State Governments through State Skill Development Missions (SSDMs).
- 25% of the PMKVY 2016-20 funds and corresponding physical targets have been allocated under CSSM.

Other aspects

Kaushal and Rozgar Melas

Social and community mobilisation is extremely critical for the success of PMKVY.

In line with this, PMKVY assigns special importance to the involvement of the target beneficiaries through a defined mobilisation process. TPs shall conduct Kaushal and Rozgar Melas every six months with press/media coverage; they are also required to participate actively in National Career Service Melas and on-ground activities.

Placement Guidelines

PMKVY envisages linking the aptitude, aspiration, and knowledge of the skilled workforce it creates with employment opportunities and demands in the market. Every effort thereby needs to be made by the PMKVY TCs to provide placement opportunities to candidates.

Monitoring Guidelines

To ensure that high standards of quality are maintained by PMKVY, TCs, NSDC and empanelled inspection agencies shall use various methodologies, such as self-audit reporting, call validations, surprise visits, and monitoring through the Skills Development Management System (SDMS).

News Update

- In a bid to empower India's youth with employable skills, the Ministry of Skill Development and Entrepreneurship (MSDE) has launched the third phase of Pradhan Mantri Kaushal Vikas Yojana (PMKVY) or PMKVY 3.0.
- Aimed at supporting the local economy and towards 'Atmnanirbhar Bharat', PMKVY 3.0 has been designed to keep pace with changing demands, both at the global and local levels.
- **PMKVY 3.0 was launched in 717 districts in 28 States/eight UTs, making more than 300 skill courses available to the youth, making skill development more demand-driven and decentralised in its approach.**

Decentralized approach

- PMKVY 3.0 will be implemented in a more decentralized structure with greater responsibilities and support from States/UTs and Districts.
- District Skill Committees (DSCs), under the guidance of State Skill Development Missions (SSDM), shall play a key role in addressing the skill gap and assessing demand at the district level. PMKVY 3.0 is a step towards achieving the 'Vocal for Local' vision by establishing increased connects at state, district and block level.
- It will encourage healthy competition between states by making available increased allocation to those states that perform better.

Demand-driven

The government says that PMKVY 3.0 will usher in a new paradigm with focus on demand-driven skill development, digital technology and Industry 4.0 skills. The new scheme will be more trainee- and learner-centric addressing the ambitions of aspirational Bharat.

The scheme will have additional courses that will help cater to local demand. The focus will also be on bridging the demand-supply gap by promoting skill development in areas of new-age and Industry 4.0 job roles. PMKVY 3.0 role will be a propagator of vocational education at an early level for youth to capitalize on industry-linked opportunities.

4.4 UNCTAD: INVESTEMENT TRENDS MONITOR FOR YEAR 2020

Why in News: The United Nations Conference on Trade and Development (UNCTAD) has released the 'investment trends monitor' for the year 2020.

UNCTAD's 2020 Investment Trends

Global highlights:

- Global foreign direct investment (FDI) collapsed in 2020 by 42 per cent to an estimated USD 859 billion from USD 1.5 trillion in 2019.
- Such a low level was last seen in the 1990s and is more than 30 per cent below the investment levels that followed the 2008-2009 global financial crisis.
- The decline in FDI inflows was concentrated in developed countries, where fund flows fell by 69 per cent to an estimated USD 229 billion.
- The UK and Italy saw an over 100% decline in FDI inflows, followed by Russia (96% drop), Germany (61%), Brazil (50%), the US (49%), Australia (46%) and France (39%).
- The United States recorded a 49 per cent drop in FDI, falling to an estimated USD 134 billion. The decline took place in wholesale trade, financial services and manufacturing.
- East Asia was the largest host region, accounting for one-third of global FDI in 2020.
- China was the world's largest FDI recipient, with flows to the Asian giant rising by 4 per cent to USD 163 billion.

Highlights from developing economies

- The decline in FDI in developing economies was relatively low (12%) and the share of developing economies in global FDI reached 72% – the highest share on record.
- The fall in FDI flows across developing regions was uneven, with 37% fall in Latin America and the Caribbean, 18% fall in Africa and a 4% fall in developing Asia.
- Although overall FDI flows in developing economies are relatively strong, Greenfield announcements fell by 46 per cent and international project finance fell by 7 per cent.
- These investment types are crucial for productive capacity and infrastructure development and thus for sustainable recovery prospects.

- Greenfield investment is a kind of FDI, in which the parent company creates a subsidiary in the host country and builds its operations.

Highlights from India

- Foreign Direct Investment into India increased by 13 per cent in 2020. The report noted that an acquisition in India's digital economy was the largest contributor to this rise.
- India attracted record numbers of deals in information consulting and digital sectors, including e-commerce platforms, data processing services and digital payments.
- Cross-border merger and acquisition (M&A) sales grew 83 per cent to USD 27 billion.
- The term mergers and acquisitions (M&A) refer broadly to the process of one company combining with another company. In an acquisition, one company purchases the other company.
- A merger is the combination of two firms, which subsequently form a new legal entity under the banner of one corporate name.

Future Outlook

Despite projections for the global economy to recover in 2021, the UNCTAD expects FDI flows to remain weak due to uncertainty over the evolution of the COVID-19 pandemic. Investors are likely to remain cautious in investing capital to new overseas projects.

Weak macroeconomic situations in major emerging markets, and uncertainty about the global policy environment for investment will all continue to affect FDI in 2021.

UNCTAD

- UNCTAD was established by the United Nations General Assembly in 1964, as a permanent intergovernmental body.
- With a permanent secretariat in Geneva, the UNCTAD reports to the UN General Assembly and United Nations Economic and Social Council.
- The creation of UNCTAD was based on concerns of developing countries over the international market, multi-national corporations, and great disparity between developed nations and developing nations.
- It was established to provide a forum where the developing countries could discuss the problems relating to their economic development.
- The primary objective of UNCTAD is to formulate policies relating to all aspects of development including trade, aid, transport, finance and technology.

4.5 PRADHAN MANTRI AWAS YOJANA URBAN and GRAMIN

Why in News: The Central Sanctioning and Monitoring Committee (CSMC) under Pradhan Mantri Awas Yojana (Urban) has sanctioned the construction of 1.68 lakh new houses under the scheme.

The Prime Minister has released financial assistance to over 6 lakh beneficiaries in UP under Pradhan Mantri Awas Yojana – Gramin, through video conference.

Pradhan Mantri Awas Yojana- Urban (PMAY-U)

Pradhan Mantri Awas Yojana (Urban) is a flagship mission launched in 2015.

Objective

- Its objective is to provide housing for all in urban areas by year 2022, when India completes 75 years of its Independence.
- All houses under PMAY (U) have basic amenities like toilet, water supply, electricity and kitchen.
- A PMAY (U) house ensures dignified living along with sense of security and pride of ownership to the beneficiaries.

Features

- The Mission promotes women empowerment by providing the ownership of houses in name of female member or in joint name.
- Preference is also given to differently-abled persons, senior citizens, SCs, STs, OBCs, Minority, single women, transgender and other weaker & vulnerable sections of the society.
- The houses under the mission should be designed and constructed to meet the requirements of structural safety against earthquake, flood, cyclone, landslides etc. conforming to the National Building Code and other relevant Bureau of Indian Standards (BIS) codes.

Implementing Agencies

- It is being implemented by Ministry of Housing and Urban Affairs (MoHUA).
- State Level Nodal Agencies (SLNAs), Urban Local Bodies (ULBs)/ Implementing Agencies (IAs), Central Nodal Agencies (CNAs) and Primary Lending Institutions (PLIs) are main stakeholders who play an important role in implementation and success of PMAY (U).

- The Mission provides Central Assistance to the implementing agencies through States/Union Territories (UTs) and Central Nodal Agencies (CNAs) for providing houses to all eligible families/ beneficiaries.

Coverage

The Mission covers the entire urban area consisting of Statutory Towns, Notified Planning Areas, Development Authorities, Special Area Development Authorities, Industrial Development Authorities or any such authority under State legislation which is entrusted with the functions of urban planning & regulations.

Beneficiaries

- The Mission addresses urban housing shortage among the EWS, LIG and MIG categories, including the slum dwellers, by ensuring a pucca house to all eligible urban households by the year 2022.
- Beneficiaries include economically weaker section (EWS), Low-income groups (LIGs) and Middle Income Groups (MIGs).
- The annual income cap is up to Rs 3 lakh for EWS, Rs 3-6 lakh for LIG and Rs 6 -18 lakhs for MIG.
- EWS category of beneficiaries is eligible for assistance in all four verticals of the Mission
- The LIG and MIG categories are eligible under only Credit linked subsidy scheme (CLSS) component of the Mission.
- The beneficiary family should not own a pucca house either in his/her name or in the name of any member of his/her family in any part of India to be eligible to receive central assistance under the mission.
- A beneficiary family will comprise husband, wife, unmarried sons and/or unmarried daughters.

Approach Adopted

- PMAY (U) adopts a demand driven approach wherein the housing shortage is decided based on demand assessment by States/UTs.
- PMAY (U) adopts a cafeteria approach to suit the needs of individuals based on the geographical conditions, topography, economic conditions, availability of land, infrastructure etc.
- The scheme has hence, been divided into four verticals or components.

Components of PMAY (U)

In-Situ Slum Redevelopment (ISSR): Slum Redevelopment Central Assistance of Rs. 1 lakh per house is admissible for all houses built for eligible slum dwellers under the component of ISSR using land as resource with participation of private developers.

After redevelopment, de-notification of slums by State/UT Government is recommended under the guidelines.

Credit Linked Subsidy Scheme (CLSS): Beneficiaries of Economically Weaker Section (EWS)/Low Income Group (LIG), Middle Income Group (MIG)-I and Middle Income Group (MIG)-II seeking housing loans are eligible for an interest subsidy under this scheme.

The Ministry has designated Housing and Urban Development Corporation (HUDCO), National Housing Bank (NHB) and State Bank of India (SBI) as Central Nodal Agencies (CNAs) to channelize this subsidy to the beneficiaries through lending institutions and for monitoring the progress.

The scheme for MIG category has been extended up to 31st March 2021.

Affordable Housing in Partnership (AHP): Under AHP, Central Assistance of Rs. 1.5 Lakh per EWS house is provided by the Government of India.

An affordable housing project can be a mix of houses for different categories but it will be eligible for Central Assistance, if at least 35% of the houses in the project are for EWS category.

Beneficiary-led Individual House Construction/ Enhancement (BLC-N/ BLC-E): Central Assistance upto Rs. 1.5 lakh per EWS house is provided to eligible families belonging to EWS categories for individual house construction/ enhancement.

Funding

It is implemented as Centrally Sponsored Scheme (CSS) except for the component of credit linked subsidy which will be implemented as a Central Sector Scheme.

News Update

14 States/UTs participated in the 52nd Meeting of the Central Sanctioning and Monitoring Committee (CSMC) under PMAY (Urban). After the meeting, construction of 1.68 lakh new houses has been sanctioned under the scheme.

These houses are proposed to be constructed across the verticals of

- Beneficiary Led Construction

- Affordable Housing in Partnership
- In-Situ Slum Redevelopment

PMAY (Urban) stats

1.1 Crore Houses approved under PMAY (U) so far. Construction of 41 Lakh houses has been completed. More than 70 Lakh houses are in various stages of construction.

Pradhan Mantri Awas Yojana- Gramin (PMAY-G)

To address the gaps in the rural housing program and in view of Government's commitment to providing "Housing for All'' by 2022, the scheme of Indira Awas Yojana (IAY) was restructured as Pradhan Mantri Awas Yojana Gramin (PMAY-G) , w.e.f 1st April 2016.

Objective

- PMAY-G aims at providing a pucca house, with basic amenities, to all houseless and those households living in kutcha and dilapidated house as per SECC 2011 data, by 2022.
- The objective for Phase-I was to cover 1 crore household living in kutcha house/dilapidated house in three years from 2016-17 to 2018- 19.
- Overall, 2.95 crore households were identified for assistance under PMAY-G till 2021-22.

Special features of the scheme

Keeping in mind the bad experience of past, few things has been kept in mind in implementation of the scheme:

- Poor families who have lost hope of owning a house are given priority
- Transparency in allocation
- Ownership to be vested preferably with women
- Monitoring via technology
- House to be equipped with all the basic amenities

Convergence with on-going programs

The States have to come up with their Annual Action Plan of PMAY that will include a plan for convergence in with other Government programs. The assistance for construction of toilet shall be leveraged though convergence with SBM-G, MGNREGS or any other dedicated the source of funding.

Convergence for piped drinking water, electricity connection, LPG gas connection and different government programs are also to be attempted. The mechanism for convergence in PMAY-G is also to be strengthened through a system-to-system real-time transfer of information between the programs that are to converge with PMAY-G.

Benefits

Per-unit assistance of Rs. 1.20 lakh in plains and Rs.1.30 lakh in hilly states, difficult areas and IAP districts is being provided. Institutional loans are also facilitated for willing beneficiaries.

Funding

- The cost of unit assistance is to be shared between Central and State Government in the ratio 60:40 in plain areas and 90:10 for North Eastern and the Himalayan States.
- From the annual budgetary grant for PMAY-G, 90% of funds are to be released to States/UTs for the construction of new houses under PMAY-G.
- The annual allocation to the states is to be based on the Annual Action Plan (AAP) approved by the Empowered Committee.

Beneficiaries

- Once of the most important features of PMAY-G is the selection of beneficiary.
- To ensure that assistance is targeted at those who are genuinely deprived and that the selection is objective and verifiable, PMAY-G selects beneficiary using housing deprivation parameters in the Socio Economic and Caste Census (SECC), 2011 date which is to be verified by the Gram Sabhas.
- The SECC data captures specific deprivation related to housing among households.

Features

- These units will have a minimum area of 25 sq. meters, and feature basic amenities with a hygienic cooking space.
- These houses are built, keeping in perspective the geo-climatic and socio-cultural factors. **Towards better quality of construction, setting up of a Nation Technical Support Agency (NTSA) at the national level is envisaged.**
- A pan-India training and certification program of Masons has been launched in the States/UTs to ensure sufficient number of skilled masons. The housing designs are developed through an elaborate public consultative process.

Implementation & Monitoring

- It is being implemented by Ministry of Rural Development (MoRD).
- In PMAY-G, program implementation and monitoring is to be carried out through an end-to-end e-Governance model- Using AwaasSoft and Awaas App.
- AwaasSoft is a work –flow enabled, web-based electronic service delivery platform through which all critical function of PMAY-G, right from identification of beneficiary to providing construction linked assistance will be carried out.
- Awaas App a the mobile application is to be used to monitor real time, evidence based progress of house construction through date and time stamped and geo-referenced photographs of the house.
- The two IT application help identify the slip ups in the achievement of targets during the course of implementation of the program.
- All payments to beneficiary are to be through DBT to beneficiary's Bank/post office accounts registered in Awaas Soft-MIS.
- The program implementation is to be monitored not only electronically, but also through community participation (Social Audit), Member of Parliament (DISHA Committee), Central and State Government officials, National Level Monitors etc.

Results so far

PM Awas Yojna was started with an aim to provide every poor family a house before completion of 75 years of independence. The scheme has accounted for 1.25 crore housing units in rural areas during recent years, with central government's contribution being about 1.5 lakh crore rupees.

News Summary

The Prime Minister has released financial assistance to over 6 lakh beneficiaries in UP under PMAY-Gramin, through video conference. These 6 lakh families will get a total of more than Rs 2600 crores in their bank account.

Out of these 6 lakh families, 5 lakh will get the first installment, while the remaining get their second installment. He recalled that the PM Awaas Yojna was launched from Agra five years ago. He noted that a house of one's own enhances self-confidence. A self-owned house brings assurance in life and also the hope of coming out of poverty.

4.6 INDIA INNOVATION INDEX

Why in News: NITI Aayog, recently released the second edition of the India Innovation Index. The first edition of the index was launched in October 2019 and is on the lines of the Global Innovation Index (GII), which ranks countries annually.

- The India Innovation Index 2020 ranks the states and union territories based on their relative performance of supporting innovation.
- The states and union territories have been divided into 17 'major states', 10 'North-Eastern and hill states', and 9 'city states and Union Territories', for effectively comparing their performance.

Objective of the index

The India Innovation Index aims to create an extensive framework for continuous evaluation of India's innovation environment.

In doing so, the index aims to accomplish the following three functions:

- Rank all states and union territories based on their index score
- Identify opportunities and challenges
- Assist in modifying governmental policies to promote innovation

Parameters used in the Index

The India Innovation Index 2020 measures innovation inputs through Five Enablers parameters:

- Human Capital
- Investment
- Knowledge Workers
- Business Environment
- Safety and Legal Environment

Innovation output through two Performance parameters:

- Knowledge Output
- Knowledge Diffusion

There are 25 indicators under the five enablers and 11 indicators under the two performance parameters.

Enablers
Human Capital
• Enrolment in PhD.
• Enrolment in engineering and technology
• Colleges connected through NMEICT
• Higher education institutions with NAAC grade A and above
• Pupil teacher ratio - Higher education
• Schools with ICT labs
• National Achievement Survey (NAS) Scores (Class X)
Investment
• Expenditure on higher and technical education
• Expenditure on research and development (state government)
• Expenditure on science, technology and environment
• FDI inflow
• Venture capital deals
Safety and Legal Environment
• Information Technology/ Intellectual Property related acts
• Cyber crime police stations
• Pendency of court cases
Business Environment
• Ease of doing business ranking
• Online services transactions
• Internet subscribers
• Incubator centres
• Common facility centres
• Cluster Strength
Knowledge Workers
• Knowledge-intensive employment
• NGOs involved in knowledge intensive areas
• Private R&D units
• State funded R&D units
Performance
Knowledge Output
• Grassroot innovations
• Patent applications filed
• Trademark applications filed
• Presence of start-ups
• Industrial design applications filed
• New businesses registered
• Publications
Knowledge Diffusion
• ICT exports
• High and medium hi-tech manufacturing entities
• Geographical Indications (GI) registered
• Citations

Significance of the Index

- The index helps to showcase the innovative capabilities of the States, highlighting their strengths, which can be used in other States, and weaknesses, which can be corrected.
- It also helps states to assess their own capacities in identifying areas that have the potential to boost the development of innovation-led entrepreneurship and attract start-ups and hi-tech companies.

The learning's from the index can be useful for formulating policies and developing strategies at both the state and the national levels. It can prove to be a powerful tool for all the states and union territories in their collective journey to make India an innovation-driven economy.

Research and Development in India

- India spends around 0.7% of its GDP on research and development (R&D), which is much lower than the top spenders, such as Israel (4.95%), South Korea, Sweden, and Japan.
- This relative ranking puts India at par with other developing countries, such as Mexico, and much ahead of countries in the South and West Asian region.
- However, India lies below other BRICS nations in terms of the percentage of GDP spent on R&D.
- However, in absolute terms, the Gross Expenditure on R&D (GERD) has consistently increased over the years, tripling from Rs 39,437 crores in 2007-08 to Rs 1, 13,825 crores in 2017-18.
- For the year 2018-19, GERD in India is estimated to be Rs. 1, 23,847 crores.

Findings of the index

Overall, Delhi has scored the highest on the index in the country with a score of 46.6, while Lakshadweep has the lowest score at 11.7. Delhi recorded the highest number of trademark and patent applications, along with the establishment of new start-ups and companies in the last financial year.

Major states

- Amongst the major states, Karnataka was at the top for the second consecutive year, followed by Maharashtra at the second position. Karnataka, Tamil Nadu, Telangana and Kerala occupy the top five positions on the index, apart from Maharashtra.
- Karnataka's success is due to a high number of venture capital deals, registered GIs (Geographical Indications) and ICT (Information and Communication Technology) exports. Karnataka's high FDI inflow has also enhanced the innovation capabilities of the state.
- Jharkhand, Chhattisgarh and Bihar were at the bottom in the major states category.

Innovation report card

Rank	Major States	Score
1	Karnataka	42.50
2	Maharashtra	38.03
3	Tamil Nadu	37.91
4	Telangana	33.23
5	Kerala	30.58
6	Haryana	25.81
7	Andhra Pradesh	24.19
8	Gujarat	23.63
9	Uttar Pradesh	22.85
10	Punjab	22.54

Rank	NE and Hill States	Score
1	Himachal Pradesh	25.06
2	Uttarakhand	23.50
3	Manipur	22.78
4	Sikkim	20.28
5	Mizoram	16.93

Rank	UTs And City States	Score
1	Delhi	46.60
2	Chandigarh	38.57
3	Daman & Diu	26.76
4	Puducherry	25.23
5	Goa	24.92

Source: NITI Aayog, India Innovation Index 2020

North East and Hill States

Amongst North East and hill states, Himachal Pradesh was the best performer followed by Manipur and Sikkim. With 31.9 per cent of the total employment generated in Himachal Pradesh being knowledge-intensive, it benefits from a high number of knowledge workers.

UTs and city states

Among city states and union territories, Delhi was the judged the most innovative, followed by Chandigarh, Daman & Diu, and Pondicherry. Lakshadweep and Jammu and Kashmir occupy the last two positions in this group.

Way Forward

The Index pointed that the best practices observed within the States should be documented and shared to encourage peer-to-peer learning. In addition, to ensure that the index's framework is even stronger to capture the best picture for the Indian innovative ecosystem, a micro-analysis of the State-level policies must be done.

As India moves into an uncertain future where the global economy is still recovering from the pandemic, innovation holds the key to transition from a developing economy to a developed economy. India has the potential and capacity to be such a nation that can transform its economic identity by relying on innovation.

4.7 DOMESTIC SYSTEMICALLY IMPORTANT BANKS (D-SIB's)

Why in News: The Reserve Bank of India has announced the 2020 list of Domestic Systemically Important Banks (D-SIBs).

In its announcement, RBI said that State Bank of India (SBI), ICICI Bank and HDFC Bank will continue to be identified as D-SIBs or what is commonly called as lenders that are too-big-to-fail.

Background

- During the 2008 global financial crisis, it was observed that problems faced by certain large and highly interconnected financial institutions negatively impacted the economy. Thus, government intervention was considered necessary to ensure financial stability.
- In 2010, the Financial Stability Board (FSB) recommended that all member countries should have a framework to reduce risks related to Systemically Important Financial Institutions (SIFIs) in their jurisdictions. The Basel Committee on Banking Supervision (BCBS) developed a framework in 2011 for identifying the Global Systemically Important Banks (G-SIBs) and the amount of additional capital required to absorb losses in G-SIBs.
- The BCBS further required all member countries to have a regulatory framework to deal with Domestic Systemically Important Banks (D-SIBs).

Global Systemically Important Banks

G-SIB status is determined using five main criteria:

- Cross-jurisdictional activity
- Interconnectedness
- Size
- Substitutability
- Complexity

The methodology is also used to rank a G-SIB's level of systemic importance (importance in the overall system) relative to other G-SIBs. Since 2011, the Financial Stability Board has published a list of global systemically important banks (G-SIBs).

The list of G-SIBs is reviewed annually, and banks can move in or out of G-SIB classification or be re-classified at a different level of systemic importance.

Domestic Systemically Important Banks

In India, RBI had issued the framework for dealing with D-SIBs in 2014. The assessment methodology adopted by RBI is primarily based on the BCBS methodology for identifying the G-SIBs with suitable modifications to capture domestic importance of a bank. The indicators used for assessment of D-SIBs are:

- Size
- Interconnectedness
- Substitutability
- Complexity

Based on the sample of banks chosen, a Systemic Importance Score (SIS) of the banks is calculated. RBI determines a cut-off score beyond which banks are considered as D-SIBs. These banks are then placed in five different buckets (categories) depending upon their Systemic Importance Scores (SISs). Based on the bucket in which a D-SIB is placed, an additional common equity requirement has to be applied to it.

The additional Common Equity Tier 1 (CET1) requirement for D-SIBs was phased-in from April 1, 2016 and became fully effective from April 1, 2019. In case a foreign bank having branch presence in India is a G-SIB, it has to maintain additional CET1 capital surcharge in the country, proportionate to its Risk Weighted Assets (RWAs). The D-SIB framework requires the RBI to annually disclose the names of banks designated as D-SIBs starting from 2015.

Significance

According to RBI if a D-SIB fails, there would be significant disruption to the essential services they provide to the banking system and the overall economy. The too-big-to-fail tag also indicates that in case of distress, the government is expected to support these banks. Due to this perception, these banks are given certain advantages in funding.

It also means that these banks have a different set of policy measures regarding systemic risks and moral hazard issues. D-SIBs are subjected to higher levels of supervision to prevent disruption in financial services in case of any failure. In economics, moral hazard occurs when an entity has an incentive to increase its exposure to risk because it does not bear the full costs of that risk.

Common Equity Tier1 (CET1)

- Common Equity Tier 1 (CET1) capital includes the core capital that a bank holds in its capital structure.

- The core capital of a bank includes equity capital and disclosed reserves such as retained earnings.
- Equity Capital refers to that portion of the organization's capital, which is raised in exchange for the share of ownership in the company.
- CET1 ratio compares a bank's capital against its risk-weighted assets to determine its ability to prevent financial distress.
- The additional CET1 requirement as a percentage of Risk Weighted Assets (RWAs) in case of the State Bank of India (SBI) is 0.6 per cent and for HDFC Bank and ICICI Bank is 0.2 per cent.

Risk Weighted Assets

Risk-weighted assets are used to determine the minimum amount of capital that must be held by banks and other financial institutions in order to reduce the risk of insolvency (bankruptcy). The capital requirement is based on a risk assessment for each type of bank asset.

The assets are assigned a weight according to their level of credit risk. For example, cash in hand would have a weight of 0%, while a loan can carry different weights of 20%, 50%, or 100%, depending on how risky it is.

Financial Stability Board (FSB)

The Financial Stability Board (FSB) is an international body that monitors and makes recommendations about the global financial system. It was established after the G20 London summit in 2009 as a successor to the Financial Stability Forum (FSF).

The Board includes all G20 major economies, FSF members, and the European Commission. The board's headquarters is in Basel, Switzerland.

Basel Committee on Banking Supervision (BCBS)

The Basel Committee on Banking Supervision (BCBS) is a committee of banking supervisory authorities established in 1974.

It provides a forum for regular cooperation on banking supervisory matters. Its objective is to enhance understanding of key supervisory issues and improve the quality of banking supervision worldwide. At present, the BCBS has 45 members from 28 jurisdictions, consisting of Central Banks and authorities with responsibility of banking regulation.

The Committee's Secretariat is located at the Bank for International Settlements (BIS) in Basel, Switzerland.

4.8 DOMESTIC SYSTEMICALLY IMPORTANT BANKS (D-SIB's)

Why in News: Prime Minister Narendra Modi recently launched a Start-up India seed fund worth Rs 1,000 crore at the Prarambh Start up India International Summit.

The Prarambh Start up India International Summit marked the fifth anniversary of the Start up India initiative launched on January 16, 2016. The Start-up India seed fund will enable start ups to raise initial funding, which will help them to start and grow new start ups.

The new seed fund for startups comes after the Ministry of Electronics and Information Technology had last year initiated a similar fund to identify start ups and give them financial help.

Apart from these seed funds, over the last year several competitions have been conducted to award start ups working in several areas, such as video-conferencing, artificial intelligence among others.

Startup India Scheme

Objective

Launched in January 2016, by the Ministry of Commerce and Industry (Department for Promotion of Industry and Internal Trade), Start up India is a flagship initiative of the government that aims to:

- Build a strong ecosystem that supports the growth of start up businesses.
- Drive sustainable economic growth.
- Generate large scale employment opportunities.

Eligibility Criteria

- Incorporated as a private limited company or registered as a partnership firm or a limited liability partnership.
- Should be working towards innovation/ improvement of existing products, services and processes and should have the potential to generate employment/create wealth
- Should be headquartered in India.
- Should have been incorporated not more than 10 years ago.
- Annual turnover less than Rs 100 crores in any of the previous years.

Components of the scheme

- Simplification and Handholding
- Funding Support and Incentives
- Industry-Academia Partnership and Incubation

Interventions

Simplification and Handholding

- Compliance regime based on self-certification to reduce the regulatory burden.
- Start up India Hub to create a single point of contact for the entire start up ecosystem.
- Roll-out of mobile app and portal for interacting with government and regulatory institutions and information exchange among various stakeholders.
- Legal support and fast-tracking patent examination at lower costs.
- Relaxed norms of public procurement.
- Faster exit.

Funding Support and Incentives

- Funding support through a fund of funds with a corpus of Rs. 10,000 crore.
- Tax exemption on capital gains to promote investments.
- Tax exemption for 3 years to promote growth and address working capital requirements.

Industry-Academia Partnership and Incubation

- Start up festivals for showcasing innovation and providing a collaboration platform.
- Launch of Atal Innovation Mission (AIM) with Self-Employment and Talent Utilization (SETU) program.
- Take help of private sector expertise for incubator setup.
- Build innovation centers at national institutes to increase incubation and R&D efforts.
- Setting up of New Research Parks modeled on the Research Park at IIT Madras.
- Launching of innovation focused programs for students to promote a culture of innovation.
- Annual Incubator Grand Challenge

Impact of Startup India Scheme

State intervention

- Before Startup India was launched, just four states had their startup policies in place and now, more than 22 Indian states have introduced their own policies.
- Every state is supporting and incubating startups as per local possibilities and 80 percent of districts of the country are now part of the Startup India mission.
- Telangana, Andhra Pradesh, Odisha, Madhya Pradesh, and Gujarat are some other states that offer end-to-end support to startups and have come up with various initiatives to boost their respective ecosystems.

Increase in global interest

- Exchange programs with foreign startups in countries like Germany and SAARC nations has created opportunities for the stakeholders in the startup ecosystem.
- The formation of international startup corridors with countries like Japan, the US, the UK, Israel, and Portugal, among others, has boosted the startup and cross-border investor sentiment.
- Startup-friendly policies and tax relief measures from the government have played a key role in increasing the foreign investments in the form of foreign venture capital and private equity funds especially from Japan, Europe, and West Asia.

Growth in the startup ecosystem

- India is the world's third largest startup ecosystem and there are over 41,000 startups in the country, of which more than 5,700 startups are in the IT sector.
- As many as 3,600 startups operate in the health sector, while nearly 1,700 startups are present in the agriculture sector.
- In 2014 there were only four startups in the unicorn club, but today there are more than 30 startups in the unicorn club. In fact, 11 startups entered the unicorn club in 2020 itself.
- **A unicorn is a term used to describe a privately held startup company with a value of over $1 billion.**
- Around 45 per cent startups are in tier 2 and tier 3 cities that work as the brand ambassadors of the local products.
- These startups are changing the demographic characteristics of businesses along with creating employment opportunities.

SCIENCE AND TECHNOLOGY

❖ **Paper III: The articles in this section are relevant to the following topics:**

- **Science and Technology- developments and their applications and effects in everyday life**
- **Achievements of Indians in science & technology; indigenization of technology and developing new technology.**
- **Awareness in the fields of IT, Space, Computers, robotics, Nano-technology, bio-technology and issues relating to intellectual property rights.**
- **Prelims**

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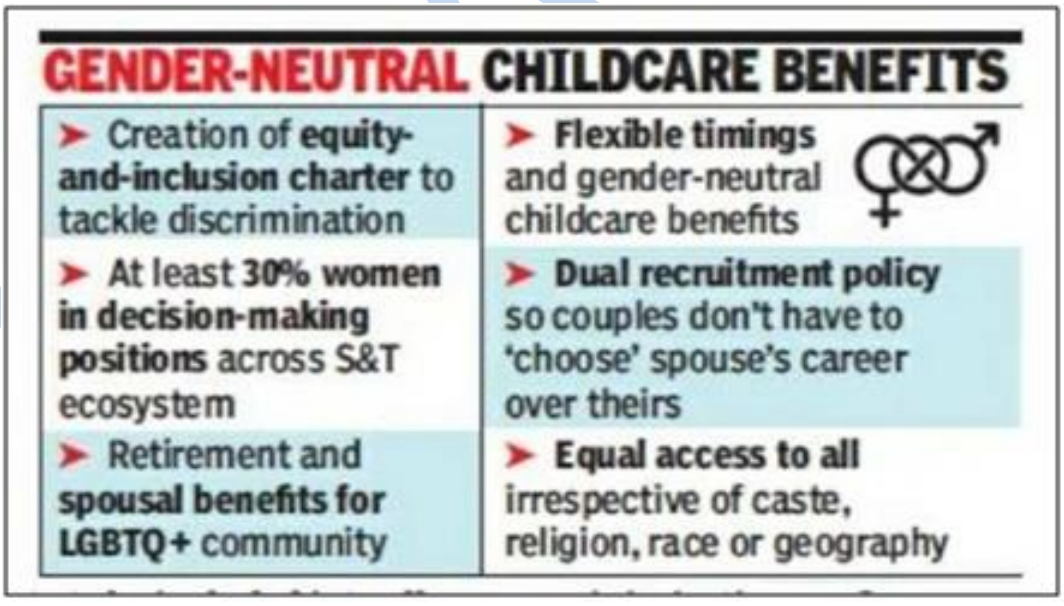
5.1 SCIENCE, TECHNOLOGY and INNOVATION POLICY (STIP) 2020

Why in News: The draft Science, Technology and Innovation Policy (STIP) 2020 was recently released by the Department of Science and Technology (DST). Once finalized, STIP2020 will replace the STI policy of 2013.

The DST has invited suggestions, inputs and comments for making changes by January 25.

Vision of Science, Technology and Innovation Policy (STIP) 2020

- Achieve technological self-reliance and place India among the top three scientific superpowers in the decade to come (2021-2030).
- Attract, nurture, strengthen and retain human capital through a 'people centric' science, technology and innovation (STI) ecosystem.
- Double the number of Full-Time Equivalent (FTE) researchers, Gross Domestic Expenditure on R&D (GERD) and private sector contribution to the GERD every 5 years.
- Build individual and institutional excellence in STI to achieve the highest level of global recognitions and awards in the coming decade.


GENDER-NEUTRAL CHILDCARE BENEFITS
Creation of equity-and-inclusion charter to tackle discrimination
Flexible timings and gender-neutral childcare benefits
At least 30% women in decision-making positions across S&T ecosystem
Dual recruitment policy so couples don't have to 'choose' spouse's career over theirs
Retirement and spousal benefits for LGBTQ+ community
Equal access to all irrespective of caste, religion, race or geography

Highlights of the draft STIP 2020 Policy

Institutional set up

- An Open Science Framework will be built to provide access to scientific data, information, knowledge and resources to everyone in the country.
- The STIP will lead to the establishment of a National STI Observatory that will act as a central repository (storehouse) for all kinds of data related to and generated from the STI ecosystem.
- From this Observatory, all data and information related to publicly-funded research would be made freely accessible to everyone under "FAIR (Fair, Accessible, Interoperable and Reusable) terms".
- A dedicated portal to provide access to the outputs of publicly-funded research will be created through the Indian Science and Technology Archive of Research (INDSTA).
- It also proposes to establish education research centers (ERCs) and collaborative research centers (CRCs) to provide research inputs to policymakers and bring stakeholders together.
- Research and Innovation Excellence Frameworks (RIEF) will be developed to improve the quality of research and to promote engagements with the relevant stakeholders.

One Nation One Subscription Policy

- Further, the government has proposed the One Nation One Subscription Policy, to buy bulk subscriptions of all important scientific journals across the world and provide everyone in India free access to them.
- The world's best scientific journals are expensive, due to which, even top institutions have to be selective in subscribing to these journals.
- One Nation, One Subscription is proposed as part of a new Open Science Framework that will ensure free access to scientific data for all.

Funding mechanisms

- The policy proposes the formation of an STI Development Bank for direct investments on various long and medium-term projects in select strategic areas, commercial ventures, start-ups and licensing.
- Each state will allocate a percentage of the state allocation for STI-related activities under a separate budget head.
- Each department or ministry in the central, state and local governments, public sector enterprises, private sector companies and startups will set up an STI unit with a minimum budget to pursue STI activities.
- It also proposes that hybrid (mixed) funding models with participation from public and private sectors will be created through the Advanced Missions in Innovative Research Ecosystem (ADMIRE)

Recruitment and Retention

- For age-related cut-offs in matters relating to selection, promotion, awards or grants, the "academic age" and not the biological age would be considered.
- While this would help women who often have to take a break from careers for family reasons and to raise children, the benefits of this provision is not restricted to women alone.
- Child-care benefits are proposed to be made gender-neutral, and flexible work timings and adequate parental leave should be offered for maternity, childbirth and child care needs.
- All publicly-funded research institutions and universities will be asked to provide day-care centre for children of employees, and also have a provision for elderly care.

Dual recruitment policy

- As of now, married couples are not posted in the same department, which leads to cases of loss of employment or forced transfers when colleagues decide to get married.
- Going forward, dual recruitment policy will be encouraged in all governing bodies, funding agencies, so that couples do not face the challenge of choosing a spouse's career over their career. The aim is to bring gender neutrality through such measures.

Creating Inclusive Culture

- The policy proposes to set up an Equity and Inclusive (E&I) Charter that will deal with all kinds of discriminations: gender, caste, religion, geography, language, disability and other exclusions and inequalities.
- There will be equal opportunity in academics for women along with candidates from rural – remote areas, marginalized communities, and differently abled groups. At least 30 per cent representation has to be ensured for women in all decision-making bodies, including selection and evaluation committees.
- Talented women scientists will be promoted to leadership positions across research and science administration to create inspiration for women aspiring to pursue science careers.
- The Lesbian, Gay, Bisexual, Transgender, Queer (LGBTQ+) community should be included in all the conversations related to gender equity. Provisions will be made to safeguard their rights and promote their representation in STI.
- The LGBTQ+ community will also be entitled for spousal benefits (including retirement benefits) to any partner irrespective of their gender.
- Differently-abled individuals, including Divyangjans, will be given special attention.

Miscellaneous provisions

- The research culture will be reoriented to recognize social impacts along with academic achievements.
- Proactive steps will be taken to improve awareness and visibility of Indian journals and digital versions of print journals will be created to make them more accessible to the international scientific community. All public-funded scientific resources will be made shareable and accessible nationally with the use of digital platforms.
- Libraries at public-funded institutions will be accessible to the public, and will only be subject to reasonable security protocols. The public library system will be expanded to all districts with the help of technological interventions.

5.2 EMERGENCY USE AUTHORISATION

Why in News: The Drug Controller General of India (DCGI) has approved two corona virus vaccines for restricted emergency use in India.

The two vaccines are Serum Institute of India's Covishield (the Indian variant of the AZD1222 vaccine developed by Oxford University and AstraZeneca) and Bharat Biotech's Covaxin. This comes after an expert panel under DGCI had recently recommended restricted emergency approval for the two vaccines. The Subject Expert Committee (SEC) made its recommendation after studying the clinical trial data.

Moreover, the DCGI also gave approval to Cadila Healthcare Ltd to conduct Phase 3 clinical trials of its ZyCoV-D vaccine candidate for Covid-19.

Emergency use Authorisation (EUA)

- Vaccines, like medicines, require the approval of a regulatory authority before they can be administered to people.
- In India, the Central Drugs Standard Control Organisation (CDSCO) is the national regulatory body for Indian pharmaceuticals and medical devices.
- The final approval is granted only after the completion of the trials and evaluation of the results. The overall approval process takes a long time, in order to ensure that the medicine or vaccine is completely safe and efficient.

However, in emergency conditions, like the present one, regulatory authorities across the world have developed mechanisms to grant emergency use authorisation (interim approval) to medicines, vaccines etc.

Regulatory provisions for emergency approval of vaccines in India

- In India, clinical trials and approvals of new drugs and vaccines are governed by the New Drugs and Clinical Trials Rules, 2019.
- The 2019 rules provide for "accelerated approval process" in several situations that would include the current pandemic. In such situations, there is a provision for granting approval to a drug that is still in clinical trials, if there is evidence that the product has meaningful therapeutic benefit.
- Further, the 2019 rules state that a new drug, or a vaccine, can be considered for approval if "remarkable" (exceptional) effectiveness is reported even from phase-II trials.
- In such cases, additional post license studies may be required after approval to generate the data on larger population. Thus, the approval granted to drugs or vaccines that are still in clinical trials is temporary and valid only for one year.

COVID Vaccines approved

Covishield vaccine:

- India became the fourth country after the UK, Argentina and El Salvador to approve the coronavirus vaccine developed by Oxford University and AstraZeneca, which is being manufactured in the country by Pune-based Serum Institute.
- The ChAdOx1 vaccine (also called AZD1222) is made from a weakened version of a common cold adenovirus that causes infections in chimpanzees.
- The firm submitted data generated from clinical trials of 23,745 participants from overseas clinical studies. Data of Phase-2/3 clinical trials on 1,000 participants in India was also submitted to seek approval.
- As per DGCI, the overall efficacy of the AstraZeneca/Oxford vaccine is 70.42 per cent — which is well below vaccines from Pfizer and Moderna, but above the 50 per cent limit set by many regulators.
- The Subject Expert Committee (SEC) has recommended the approval of two full doses of the vaccine with a gap of 4-6 weeks between the two shots. The vaccine can be stored at temperatures between 2°C and 8°C.

Covaxin Vaccine

- Covaxin has been indigenously developed by Hyderabad-based Bharat Biotech in collaboration with the Indian Council of Medical Research (ICMR).

- Covaxin is an inactivated vaccine and is made by using particles of the coronavirus that were killed, making them unable to infect or replicate.
- Injecting particular doses of these particles helps to build immunity by helping the body create antibodies against the dead virus.
- The Phase 1 and Phase 2 clinical trials were conducted on about 800 participants and the results have demonstrated that the vaccine is safe and provides a strong immune response.
- The Phase 3 efficacy trial was initiated in India on 25,800 volunteers and till date, approximately 22,500 participants have been vaccinated across the country and the vaccine has been found to be safe.
- The vaccine will be given in two doses and stored at 2-8° degrees Celsius.

Debate on the vaccine approval

Concerns raised on the approval:

- Several experts have raised concerns regarding the approval process of the two Covid-19 vaccines, by DCGI. Experts claim that there is no information regarding specific provisions of law under which the DCGI has granted Restricted Emergency Use (REU) approval. Further, no information has been provided regarding the conditions attached with the approvals.

- Bharat Biotech's Covaxin is yet to complete phase-3 trial and experts have questioned the basis on which approval was given to Covaxin. Experts have asked DGCI to publicly release all the data and analyses that were used for approvals, so that they can be independently verified. Till now, only other countries that have approved vaccines without publicly releasing the efficacy data are Russia and China.

It is important to have a vaccine to control the pandemic, but it is equally important that the public must have trust in a vaccine that is approved.

ICMR's response

In response ICMR has said that the emergency approval was given to Covaxin after proper review of data of 22,500 persons which showed that the vaccine was safe.

It further shared that by the time the vaccination program is launched, the Phase 3 trial for Covaxin will be concluded and final set of data will also be available. Moreover, the approval for Covaxin is in clinical trial mode, which means that monitoring of people who will receive the vaccine will be in the same mode as those participating in the trial.

This approval ensures India has an additional vaccine, which becomes even more significant due to the recent mutations in the virus.

Central Drugs Standard Control Organization (CDSCO)

The CDSCO is the national regulatory body for Indian pharmaceuticals and medical devices, and has a similar function to the Food and Drug Administration of the United States.

Within the CDSCO, the Drug Controller General of India (DCGI) regulates pharmaceutical and medical devices, under the Ministry of Health and Family Welfare. The DCGI is advised by the Drug Technical Advisory Board (DTAB) and the Drug Consultative Committee (DCC).

It is divided into zonal offices which do pre-licensing and post-licensing inspections, post-market surveillance, and recalls when needed.

5.3 NATIONAL METEROLOGY CONCLAVE

Why in News: Prime Minister Narendra Modi recently delivered the inaugural address at the National Metrology Conclave 2021.

The Conclave was organised by Council of Scientific and Industrial Research-National Physical Laboratory (CSIR-NPL), on its 75th year of formation. The theme of the conclave is Metrology for the Inclusive Growth of the Nation**. At the conclave, the PM dedicated the National Atomic Timescale and Bhartiya Nirdeshak Dravya Pranali to the Nation.**

Atomic time

Atomic time is a timescale generated by atomic clocks. The International Atomic Time (TAI, from the French name temps atomique international) is based on the combined output of some 400 highly precise atomic clocks.

Signals from these atomic clocks are transmitted to the International Bureau of Weights and Measures in Sèvres just outside Paris, which uses them to form TAI. International Atomic Time (TAI) is one of the main components of Coordinated Universal Time (UTC).

Atomic clock

- An atomic clock is the most accurate type of timepiece in the world, designed to measure time according to vibrations within atoms (usually caesium or rubidium).
- Atomic clocks are used to coordinate systems that require extreme precision, such as Global Positioning System (GPS) navigation and the Internet.

- A group of atomic clocks located in a number of places throughout the world is used to establish Coordinated Universal Time (UTC), the time scale used to determine local times around the world.

National Atomic Timescale

- Precise time with nanosecond accuracy is generated and maintained over world using atomic clocks at national measurement institutes (NMIs) in more than 70 countries including India.
- CSIR-NPL is the NMI of India and authorized (by an act of Parliament) to release and maintains the Indian Standard Time.
- Through CSIR-NPL's National Atomic Timescale, India has become self-reliant in measuring the time within the range of a nano second. Now Indian Standard Time is matching the International Standard Time with the accuracy range of less than 3 nano second.
- The atomic clocks maintained by CSIR-NPL are so accurate that they would lose or gain one second in about three lakh years.

Significance of National Atomic Timescale

- It will significantly aid organizations like ISRO that are working with in highly advanced technological domains.
- Modern technology related banking, railways, defence, health, telecom, weather forecast, disaster management and many similar sectors will also benefit from this achievement.
- The timescale will also play a big role in strengthening India's role in Industry 4.0.

Bharatiya Nirdeshak Dravya

- Bharatiya Nirdeshak Dravyas (BNDs) are Indian reference materials are CRMs developed by CSIR- NPL. The Bhartiya Nirdeshak Dravya is supporting testing and calibration of laboratories for quality assurance, at par with international standards.
- Reference materials (RM) play an important role in maintaining the quality infrastructure of any economy through testing and calibration with precise measurements.
- A transition of India from developing state to developed state requires strengthening of its quality infrastructure and manufacturing, for which availability of indigenous standards and certified reference materials (CRMs) are important.
- The national metrological institutes of advanced economies (e.g. USA, Germany, Japan France, UK, Korea, China) have strong programs on reference material production.

- However, major industries in India depend on the other National Measurement Institutes (NMIs) for certified reference materials (CRMs), which are very costly.
- CSIR-NPL is developing the certified Indian reference material (called as Bharatiya Nirdeshak Dravya) in association with ministry of commerce and industries for self-reliant India.

Significance of BND

- BND would enhance the national quality infrastructure in the country and help the industry to make quality products in sectors like heavy metals, pesticides, pharma and textiles by drafting a 'Certified Reference Material System'.
- With these new standards, there is an effort to bring global identity to local products in districts across the country, which will be of particular benefit to the MSME sector.
- Complying with the International standards will help the large foreign manufacturing companies coming to India to find a local supply chain.
- It will also provide quality goods to the general consumer of India and reduce the problems faced by the exporter.

Metrology

Metrology is the scientific study of measurement. It establishes a common understanding of units, crucial in linking human activities.

In the modern world, the study of measurement is a vital component in many fields, including manufacturing, engineering, science and technology. Within these fields, metrology is used to validate and verify to pre-defined standards. These standards are the foundation of metrology and are tested and verified against a recognised quality system by certified laboratories.

National Physical Laboratory (NPL)

The National Physical Laboratory is the National Metrology Institute of India and a premier research laboratory in the field of physical sciences.

The National Physical Laboratory was conceptualized in 1943 by the Governing Body of Council of Scientific and Industrial Research (CSIR), for using science and technology as a means for industrial growth and develops the foundation stone for the laboratory was laid in 1947 and it was one of the first national laboratory to be set-up under the CSIR.

The main aim of the laboratory is to strengthen and advance physics-based research and development for the overall development of science and technology in the country.

5.3 ATAL INNOVATION MISSION

Why in News: Atal Innovation Mission and Indian Space Research Organization (ISRO) have announced that ISRO will be adopting 100 Atal Tinkering Labs (ATLs) across the country to promote scientific temperament among students.

Details of the initiative

- Scientists and engineers from ISRO centers, would actively coach and mentor students, in advanced technologies of the 21st century, including space related technologies.
- They will also interact with teachers in these ATLs for encouraging experiments, brainstorming ideas and spreading awareness in space activities.
- The students will not only gain theoretical, but also practical and application-based knowledge of STEM and space education related concepts such as electronics, physics, optics, space technology, material sciences and many more.
- STEM is a curriculum based on the idea of educating students in four specific disciplines: science, technology, engineering and mathematics — in an interdisciplinary and applied approach.

Impact of the initiative

The initiative will help in promoting innovation and the spirit of experiential learning among the school kids compared to traditional learning. Such project based learning will improve the attitude of students towards research from the school itself.

Atal Innovation Mission

Atal Innovation Mission (AIM) is a flagship initiative set up by the NITI Aayog to promote innovation and entrepreneurship across the country. AIM's objective is to serve as a platform for the promotion of innovation hubs, grand challenges, startup businesses and other activities, particularly in technology driven areas. AIM has the following programs to encourage and support innovation in the country:

- Atal Tinkering Labs
- Atal Incubation Centers
- Atal New India Challenges and Atal Grand Challenges
- Industry, Academia, Government and Global Collaborations

Atal Tinkering Labs

Atal Tinkering Laboratories (ATLs) are established in schools across India to transform children into innovators. The aim is to have at least one or more Atal Tinkering Labs in each district of the country.

The objective of this scheme is to promote curiosity, creativity, and imagination in young minds and develop skills such as design mindset, computational thinking etc. ATL is a workspace where young children can give shape to their ideas through hands-on do-it-yourself mode, and learn innovation skills.

They also get a chance to work with tools and equipment to understand the concepts of STEM. Over seven thousand ATLs have already been established across the country enabling more than three million students between classes six to 12 acquire a problem solving and innovative mindset.

Eligibility

Schools managed (minimum Grade VI-X) by Government, local body or private trusts or societies are eligible.

Atal Incubation Centers (AIC)

- Atal Incubation Centers (AICs) are set up to support innovative startup businesses and help them to become sustainable enterprises.
- The AICs create incubation facilities across various parts of India with suitable physical infrastructure in terms of capital equipment and operating facilities.
- They also provide sectoral experts for mentoring startups, business planning support, access to capital and industry training required for encouraging innovative startups.

Eligibility

Higher educational institutions, R&D institutes, corporate sector, alternative investment funds registered with SEBI, business accelerators, group of individuals, and individuals are eligible to apply.

Atal New India Challenges and Atal Grand Challenges

To promote technology driven innovations and product creation for social and commercial impact Atal New India Challenges / Atal Grand Challenges are being launched in specific areas and sectors of national importance. AIM is also partnering with corporate and other institutions to launch such challenges to promote new product and service development in various sectors.

ECOLOGY and ENVIRONMENT

❖ **Paper III: The articles in this section are relevant to the following topics:**

- **Conservation, environmental pollution and degradation, environmental impact assessment**
- **Disaster and disaster management.**

❖ **Prelims Oriented Questions**

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6.1 DEEPOR BEEL

Why in News: To protect 'Deepor Beel', Assam's only Ramsar site, the local district administration has imposed Section 144 CrPC at the site, and prohibited community fishing in the wetland.

Deepor Beel

- Deepor Beel, also spelt Dipor Beel, a freshwater lake, is located to the south-west of Guwahati city, in Kamrup district of Assam.
- The name Deepor Beel is stated to be derivative of the Sanskrit word dipa which means elephant and the beel mean wetland or large aquatic body in Assamese language, inhabited by elephants.
- It is considered as one of the large and important riverine wetlands in the Brahmaputra valley of lower Assam, India. Beel in Assamese means wetland or large aquatic body.
- Deepor Beel is an open lake basin connected with a set of inflow and out flow channels.

Significance

Deepor Beel has both biological and environmental importance besides being the only major storm water storage basin for Guwahati city. Deepor beel also provides a means of livelihood for a number of local families.

It is reported that the local people traditionally utilise the beel for harvesting fish and molluscs and for collecting fodder for domestic cattle, natural food, such as, vegetables, flowers, aquatic seeds, etc. Nymphaea nuts, flowers, etc., are harvested for sale in the local markets.

The seeds of giant water lily, annually leased by the government revenue department, is also another major source of revenue after fish.

Biodiversity

The site is one of the staging sites for migratory birds in India, and some of the large congregations of aquatic birds in Assam happen here during winter. Because of the richness of avian fauna it enjoyed, Deepor Beel has been selected as an Important Bird Area (IBA) site by Birdlife International.

The Beel is reported to support threatened species of birds like spotbilled pelican, lesser adjutant stork, greater adjutant stork, black necked stork, and large whistling teal. It also supports 50 fish species belonging to 19 families.

Deepor beel has also been designated as a Ramsar Site (Wetland of International Importance) in 2002.

Shrinking wetland

According to hydrological experts, the area of the wetland was about 6,000 hectares (60 sq km) in the late 1980s. Today, Deepor beel is spread over an area of 40 sq km during the monsoon (including encroached/reclaimed/developed area of about 31 sq km).

The core area of Beel is currently estimated at about 9 sq km, with the actual water body of only 4 sq km. One of the reasons is that it is losing connectivity with small rivers such as Kalmoni, Khonajan and Basistha. It had much earlier lost natural linkages with the river Brahmaputra.

Expansion of the city, encroachment upon the natural channels through Guwahati and from the hills around, and a municipal waste dump at the edge of the wetland are the other factors.

To protect 'Deepor Beel', the local (Metropolitan) district administration has imposed Section 144 CrPC at the site, and prohibited community fishing in the wetland. The prohibition has been imposed from January 1 to January 31, 2021.

Mass community fishing is prevalent in many parts of Assam and parts of Northeast India in January around Magh Bihu or Bhogali Bihu festival. The prohibition order comes due to the possibility of community fishing in Deepor Beel on January 3 and beyond.

The order said that mass fishing events in such conservation areas will cause irreparable as well as irretrievable damage to the ecosystem, and are also illegal under the Wildlife (Protection) Act, 1972. The order was necessary to prevent fishing, excavation and construction in and around the wetland that has been shrinking over the years.

6.2 CLIMATE OF INDIA REPORT 2020

Why in News: The India Meteorological Department (IMD) recently released its 'Climate of India during 2020' report.

The report gives details about various climatic factors in the country including rainfall, extreme weather events and the status of warming.

Highlights of the report

Rainfall

In 2020, rainfall over the country as a whole during the South West monsoon season (June-September), which is the principal rainy season of the country, was above normal (109 % of Long Period Average of 88 cm).

The 2020 Northeast monsoon season (October-December) rainfall over the country as a whole was normal (101% of Long Period Average).

Extreme weather events

In 2020, India experienced several extreme climate events like extremely heavy rainfall, floods, landslides, thunderstorm, lightning, cold waves which killed hundreds of people. Heavy rainfall and floods claimed over 600 lives in different parts of the country during pre-monsoon, monsoon and post-monsoon seasons.

Bihar and Uttar Pradesh were the most adversely affected states during the year, as more than 350 people died from each state due to thunderstorm, lightning and cold wave. Last year, five cyclones were formed over the North Indian Ocean:

- Amphan
- Nisarga
- Gati
- Nivar
- Burevi

Super cyclone Amphan was the strongest in intensity, and it killed 90 people and caused massive destruction. Globally, the Atlantic Ocean experienced one of the most active years, with over 30 tropical storms originating in it.

Increase in warming

The year 2020 was the eighth warmest year in India since nation-wide records began in 1901. The annual mean land surface and air temperature for the country in 2020 was 29 degree Celsius above the 1981-2010 period average. However, it was much lower than 2016 (+0.71 degrees Celsius), which remains the warmest ever year the country has recorded since 1901. The report further noted that 12 out of 15 warmest years were during the recent fifteen years (2006-2020).

Data from WMO's report

- Last month, in its 2020 State of the Global Climate report, the World Meteorological Organisation (WMO) had also said that the year 2020 was on track to be one of the three warmest years on record. As per the report, global mean surface temperature (till October 2020) was 1.2 degrees Celsius above normal.
- Globally, the past six years, 2015 to 2020, are set to be six of the hottest years since modern records began in 1850. Moreover, 2011-2020 will be the warmest decade on record.

India Meteorological Department (IMD)

- The India Meteorological Department (IMD) is an agency of the Ministry of Earth Sciences.
- It is the National Meteorological Service of the country and the principal government agency in all matters relating to meteorology, seismology and allied subjects.
- Established in 1875, IMD is headquartered in Delhi and operates hundreds of observation stations across India and Antarctica.

Functions of IMD

- To take meteorological observations and to provide current and forecast meteorological information for optimum operation of weather-sensitive activities like agriculture, irrigation, shipping, aviation, offshore oil explorations, etc.
- To warn against severe weather phenomena like tropical cyclones, norwesters, dust storms, heavy rains and snow, cold and heat waves, etc., which cause destruction of life and property.
- To provide meteorological statistics required for agriculture, water resource management, industries, oil exploration and other nation-building activities.
- To conduct and promote research in meteorology and allied disciplines.
- To detect and locate earthquakes and to evaluate seismicity in different parts of the country for development projects.

6.3 ANALYTICAL QUALITY CONTROL (AQC)

Why in News: The Central Pollution Control Board (CPCB), Delhi has organized the 33rd Analytical Quality Control (AQC) exercise for trace metal parameters. Environmental laboratories of Central and State Pollution Control Boards, Pollution Control Committee's, and EPA recognized private labs are participating in the exercise for trace metal parameters.

AQC

- The metals included in the 33rd AQC exercise are Total Arsenic (As), Cadmium (Cd), Total Chromium (Cr), Copper (Cu), Iron (Fe), Manganese (Mn), Nickel (Ni), Lead (Pb) and Zinc (Zn) for the assessment of pollution in air and water.
- The performance of each laboratory would be evaluated based on scores and the scorecards.
- Objective: To continuously monitor the accuracy and reliability of the analytical data generated by these laboratories, to help to improve the infrastructure of laboratories and the quality of data.

Significance

- The AQC exercise will help to evaluate the performance of participating laboratories in terms of analytical activities, the quality of instruments used for sample analysis and the expertise of manpower in the laboratory.
- It will also help to ensure the reliability of the analyzed data, for an informed decision for the prevention and control of pollution.

Trace metals

- Trace metals are elements such as chromium, zinc, nickel, lead etc. that normally occur at very low levels in the environment. Living things need very small amounts of some trace metals, but high levels of the same metals can be toxic.
- Levels of trace metals in the environment increase when they are released from rocks. These releases can occur through natural processes or through human activities. Natural processes include breakdown of rocks, spreading of mid-ocean ridges, and volcanic activity.
- Human activities that release trace metals into the environment include mining, smelting, burning of coal, and wastewater disposal.

Various trace metals and their impact

Iron

Iron is essential to almost all living things, from micro-organisms to humans. It is found abundantly in the earth's crust. Iron is generally present in surface waters as salts when the pH is above 7. While normal amount of iron is essential, large amount of iron adversely affects the human system.

Excess iron in vital organs, even in mild cases of iron overload, increases the risk for liver disease (cirrhosis, cancer), heart attack or heart failure, diabetes, osteoarthritis, and metabolic syndrome. It can also accelerate neurodegenerative diseases like Alzheimer's, early-onset Parkinson's, epilepsy and multiple sclerosis.

Chromium

Chromium is a steel-grey, lustrous (shiny), hard and brittle metal, which can exist in various forms in the environment; most soils and rocks contain small amounts of chromic oxide. Chromium is the main additive in stainless steel, to which it adds anti-corrosive properties.

Chromium is an essential nutrient for humans and shortages may cause heart conditions, disruptions of metabolisms and diabetes. It is a danger to human health, mainly for people who work in the steel and textile industry. People who smoke tobacco also have a higher chance of exposure to chromium.

Other health problems that are caused by chromium are skin rashes, upset stomachs and ulcers, respiratory problems, weakened immune systems, kidney and liver damage, alteration of genetic material and lung cancer

Lead

Lead is a commonly found element as several stable isotopes exist in nature. It is used mainly in the production of lead-acid batteries, solder and alloys.

Lead poisoning occurs when lead builds up in the body, often over months or years. Exposure to even low levels of lead can cause damage over time, especially in children. The greatest risk is to brain development, where irreversible damage can occur. Higher levels can damage the kidneys and nervous system in both children and adults. Very high lead levels may cause seizures, unconsciousness and death.

Arsenic

Arsenic comprises about 0.00005% of the earth's crust and occurs in the environment in different oxidation states. Generally, inorganic forms are more toxic and mobile than organic forms of arsenic. Long term exposure to arsenic contaminated water may lead to various diseases such as conjunctivitis, hyper pigmentation, cardiovascular diseases, disturbance in nervous systems, skin cancer and gangrene.

6.4 MANAGEMENT EFFECTIVENESS EVALUATION (MEE)

Why in News: The Ministry of Environment, Forest and Climate Change (MoEFCC) has released the Management Effectiveness Evaluation (MEE) of 146 national parks and wildlife sanctuaries in the country.

The Ministry also announced that this year onwards, 10 best national parks, five coastal and marine parks and top five zoos in the country will be ranked and awarded every year.

Management Effectiveness Evaluation (MEE)

Management Effectiveness Evaluation of Protected Areas has emerged as a key tool for the governments and international bodies to understand the strengths and weaknesses of the protected area management systems. It provides valuable guidance on various aspects of wildlife and protected areas.

MEE helps to:

- Assist in effective resource allocation;
- Promote accountability and transparency
- Help involve the community;
- Promote the values of National Parks and Wildlife Sanctuaries (NP&WLS)

Significance of MEE

- In both developed and developing countries it has been seen that declaration of NP&WLS does not always result in adequate protection. Evaluation is therefore necessary because NP&WLS face many threats.
- Funding bodies, policy makers and conservation lobbyists can use the results to highlight problems and to set priorities.
- Management agencies can use them to promote better management policies and practices.
- It also helps local communities and other stakeholders, including civil society, to demonstrate whether their interest is being considered or not.

Protected Areas in India

India has systematically designated its Protected Areas in four legal categories: National Parks, Wildlife Sanctuaries, Conservation Reserves and Community Reserves under the Wildlife (Protection) Act, 1972.

Under this Act, India has 903 formally designated Protected Areas, covering about 5 per cent of its total geographic area of the country.

MEE in India

- India formally initiated the process of Management Effectiveness Evaluation (MEE) in 2006 for evaluation of its National Parks, Wildlife Sanctuaries and Tiger Reserves.
- Till 2018, MEE of 324 national parks and wildlife sanctuaries was carried out. In 2018-19, the MoEFCC has conducted the MEE of 146 NPs and WLS (the results for this MEE is recently released as mentioned above).
- With this round of evaluation, the MoEFCC successfully completed one full cycle of evaluating all terrestrial National Parks and Wildlife Sanctuaries of the country from 2006 to 2019.
- This process has proved to be useful in strengthening the PA management and dealing with critical issues and challenges.

Evaluation process

- The evaluation of National Parks and Wildlife Sanctuaries in India is based on the global MEE framework, which includes 6 Elements, viz., Context, Planning, Input, Process, Output and Outcomes.
- Based on these 6 elements, 30 'Headline Indicators' have been customised and developed in Indian context. The element wise and indicator wise performance have been analysed.
- Each 'Headline Indicator' had four possible answers, 'poor' (score 2.5), 'fair' (score 5), 'good' (score 7.5) and 'very good' (score 10) to choose for evaluation. The total score would be 300 by including maximum score of all questions.
- The ratings have been assigned in four categories, as Poor: up to 40%; Fair - 41 to 59%; Good - 60 to 74%; Very Good 75% and above.

Findings of the survey

The results of the present assessment are encouraging with an overall mean MEE score of 62.01% which is higher than the global mean of 56%.

Rating-wise, 13% PAs are in 'very good' category, 52% PAs are in 'good' category, 29% PAs in 'fair' category and only 6% PAs have been rated in 'poor' category. The eastern region of India has the highest overall mean MEE Score of 66.12% and the northern region has the lowest mean MEE Score of 56%.

The mean MEE score percentage recorded maximum for Meghalaya (79.16%) and minimum for Uttar Pradesh State (43.16%). Tirthan Wildlife Sanctuary and Great Himalayan National Park, Himachal Pradesh were rated with the highest MEE score of 84.17% and Turtle Wildlife Sanctuary, Uttar Pradesh was rated with least MEE score of 26.66%.

Rich biodiversity

India has around 70% of the global tiger population, 70% of Asiatic lions and more than 60% of leopard population. This is a certificate of India's rich biodiversity as these big cats are at the top of food chain and their growing numbers shows the well-being of the whole ecosystem.

MEE for Indian Zoo

The Ministry has also launched the Management Effectiveness Evaluation of Indian zoos framework which proposes guidelines, criteria and indicators for the evaluation of zoos of the country. The exercise aims to develop the highest standards in zoos across India by following core values of accountability, transparency, innovation and use of technology, for conservation of endangered species.

Way Ahead

Opportunities for enhancing management effectiveness through good governance have to be further strengthened. There is a need to enhance the participation of a range of relevant stakeholders and bring in appropriate changes in policy and governance to enhance effectiveness of management of PAs. There is also a need to improve and adapt management strategies and actions according to evolving needs and challenges in the field.

SOCIAL ISSUES

❖ **Paper I: The articles in this section are relevant to the following topics:**

- **Salient features of Indian Society, Diversity of India.**
- **Role of women and women's organization, population and associated issues, poverty and developmental issues, urbanization, their problems and their remedies.**
- **Effects of globalization on Indian society**
- **Social empowerment, communalism, regionalism & secularism.**

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7.1 LONGITUDINAL AGING STUDY IN INDIA(LASI)

Why in News: The Ministry of Health and Family Welfare recently released the Longitudinal Aging Study in India (LASI).

Longitudinal Aging Study in India

• Launched in 2016, the LASI is a full–scale national survey of scientific investigation of the health, economic, and social determinants and consequences of population ageing in India.

• LASI, Wave 1 (phase 1) covered 72,250 individuals aged 45 and above for the 2017-18 period. This included 31,464 people aged 60 and above and 6,749 aged 75 and above from all states and Union territories, excluding Sikkim.

• Funded by the Union Ministry of Health and Family Welfare, it is India's first and the world's largest-ever survey that provides database for designing policies for the older population in the broad domains of social, health, and economic well-being.

• Similar studies have been carried out in 41 countries. In Asia, China, Korea, Japan, and Indonesia have taken up the exercise.

• The study was carried out by the International Institute of Population Sciences (IIPS), Mumbai in collaboration with Directorate General of Health, Harvard School of Public Health, University of Southern California, USA, United Nations Population Fund (UNFPA) and National Institute on Ageing.

Key findings

Size of elderly population

• In the 2011 census, people aged 60 and above formed 8.6% of India's population, accounting for 103 million elderly people.

• Growing at around 3% annually, the number of elderly-age population will rise to 319 million in 2050.

Prevalence of morbidity

• The study shows that, the prevalence of single morbidity and multi-morbidity conditions increases with age. Morbidity is the state of having a specific illness or condition.

• Around, 26% of older adults age 45 and above reported that they have been diagnosed with single morbidity and 18% have been diagnosed with multi-morbidities.

• Around a quarter (23%) of the elderly age 60 and above has multi-morbidities.

• The prevalence of multi-morbidity conditions among the elderly aged 60 and above is much higher in the states/UTs of Kerala (52%), Chandigarh (41%), Lakshadweep (40%), Goa (39%) and Andaman & Nicobar Islands (38%).

Mental Health issues

• As per the study, one in five elderly persons in India has mental health issues.

• While age associated-decline in cognitive (mental) ability score is consistent across states and socioeconomic spectrum, it was found to be closely related to educational attainment across all ages.

• For instance, 9 percent of people with less than primary education had depression and it dropped sharply to 5 percent in people with 10 or more years of schooling.

• More women suffered from depression than men in the rural areas.

Work limiting health conditions

• More than 40% of those aged 60 and above, who are either currently working or had worked in the past, reported having work-limiting health conditions.

• In the above-60 category, 11 per cent suffered from at least one form of impairment: mental, visual or hearing compared with 6 per cent in the 45-59 age brackets.

• Almost one-fourth of those over 60 face at least one limitation in pursuing daily activities such as movement in bed, changing position from sitting to standing, feeding, bathing, dressing, grooming, and personal hygiene.

Treatment rates

• Around 75% of those 60 and above who were diagnosed with chronic conditions have been treated for hypertension (77%), chronic heart diseases (74%), diabetes mellitus (83%), chronic lung diseases (72%) and cancer (75%).

• More than half the elderly have been treated for stroke (58%) and bone or joint diseases (56%) whereas the treatment rate for neurological and psychiatric diseases is 41%.

• The treatment rate for all chronic health conditions is higher among the elderly in urban areas.

• Chronic diseases are defined broadly as conditions that last 1 year or more and require ongoing medical attention or limit activities of daily living or both.

Social security benefits

• About one-fifth of those 60 and above, who are officially retired, are currently receiving pension and an additional 3% are expected to receive it. A large proportion (78%) are neither receiving nor expected to receive pension.

• More than half of people aged 60 and above (54%) with 10 or more years of schooling, and who are officially retired, are receiving pension. In comparison, just 4% of those with no schooling get pension.

• Social security coverage is significantly higher in smaller states and UTs where people are mostly engaged in full-time jobs and in public sector units. North, east and central Indian states have almost negligible social security coverage.

Significance of the findings

• The evidence from LASI will be used to further strengthen and broaden the scope of National Program for Health Care of the Elderly.

• It will also help in establishing a range of preventive and health care program for older population and most vulnerable among them.

7.2 JAL JEEWAN MISSION

Why in News: Over 3 crore rural households have been provided tap connections under the Jal Jeevan Mission (JJM) since it started in 2019.

Jal Jeevan Mission (JJM)

The Jal Jeevan Mission was announced by the Central Government in August 2019. The main objective of the Mission is to provide piped water supply (Har Ghar Jal) to all rural households by 2024.

It is also referred to as Functional Household Tap Connection (FHTC).

Vision of JJM:

- Drinking water supply in adequate quantity and prescribed quality for every rural household.
- The water supply should be regular and long-term at affordable service delivery charges leading to improvement in living standards of rural communities

Mission of JJM

Jal Jeevan Mission is to assist, empower and facilitate:

- States/ UTs in planning of participatory rural water supply strategy for ensuring potable drinking water security on long-term basis to every rural household and public institution.
- States/ UTs for creation of water supply infrastructure so that every rural household has Functional Tap Connection (FHTC) by 2024.
- States/ UTs to plan for their drinking water security.
- GPs/ rural communities to plan, implement, manage, own, operate and maintain their own in-village water supply systems.

Broad Objectives of the JJM

- To provide Functional Household Tap Connection (FHTC) to every rural household by 2024
- To prioritize provision of FHTCs in quality affected areas, villages in drought prone and desert areas, Sansad Adarsh Gram Yojana (SAGY) villages, etc.
- To provide functional tap connection to Schools, Anganwadi centers, GP buildings, Health centers, wellness centers and community buildings
- To monitor functionality of tap connections
- To promote and ensure voluntary ownership among local community by way of contribution in cash, kind and/ or labour and voluntary labour (shramdaan)

Executing Agency of JJM:

Department of Drinking Water and Sanitation under the Jal Shakti Ministry is the executing agency of the mission.

Implementing Strategy:

The Mission will focus on both demand and supply side water management at the local level.

It will also focus on creation of local infrastructure like rainwater harvesting, groundwater recharge and management of household wastewater for reuse in agriculture. It will converge with other ongoing Central and State Government Schemes to achieve its objectives.

Funding of the Mission

The JJM has a five-year budget of Rs 3.6 lakh crore. It had expected to get this money through a convergence of financing sources.

Various financing sources for JJM:

- Direct budgetary allocations
- Funds from Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGA) and the Compensatory Afforestation Fund (CAMPA) to create sustainable water sources.
- Corporate social responsibility, community donations and parliamentarians' funds for local area development to be used for the village-level infrastructure
- The Finance Commission's grants for panchayats would be used for grey water management and operation and maintenance of the water supply system.

Components under JJM

- Development of in-village piped water supply infrastructure to provide tap water connection to every rural household.
- Development of reliable drinking water sources and/ or augmentation of existing sources to provide long-term sustainability of water supply.
- Wherever necessary, bulk water transfer, treatment plants and distribution network to cater to every rural household.
- Technological interventions for removal of contaminants where water quality is an issue.
- Grey water management.
- Any other unforeseen challenges/ issues emerging due to natural disasters/ calamities which affect the goal of FHTC to every household by 2024.

JM is needed:

- **Decreasing Water Availability**: The per capita water availability in 2011 in India was 1,545 cubic meters. This makes India a water stressed country.
- **Household water supply:** Out of the nearly 19 crore rural households in the country, only 3.2 crore had access to piped water supply till 2019.

- **Water Quality:** As per NITI Aayog, about 70% of piped water supply in India is contaminated. This puts a huge pressure of health of people.

News Update

Jal Shakti Ministry's data shows that over 3 crore rural households have been provided tap connections under the Jal Jeevan Mission (JJM) since it started in 2019. The Ministry credited the success primarily to the people of the villages, Gram Panchayats, PaaniSamitis, public health authorities and other stakeholders.

The Jal Jeevan Mission is following an inclusive approach and mandates involvement of rural women in the Village Water and Sanitation committee/PaaniSamitis to ensure their participation in overall planning and preparation of the village action plans (VAPs).

Under this mission, 5 women per village are trained to test the quality of water using Field Testing Kits (FTKs), so as to ensure supply of quality drinking water through these connections.

Har Ghar Jal

JJM seeks to achieve piped water connections to each and every rural household with an approach ensuring - 'No one is left out'.

So far, 27 Districts, 458 blocks, over 33000 Gram Panchayats, over 66,000 Villages have achieved "HarGhar Jal". Goa became the first state to provide 100% piped connection. States of Telangana, Bihar, Gujarat, Haryana, UTs of Puducherry and Andaman & Nicobar are close to achieving 100% coverage.

7.3 BASIC NEEDS APPROACH

Why in News: The Economic Survey 2020-21 has highlighted the improvement in access to bare necessities like housing, water, sanitation, electricity etc. and their importance.

"Basic needs" approach to economic development:

Bare necessities include housing, water, sanitation, electricity, clean cooking fuel etc. which are consumed by all the members of the household and which touch the life of every member. Economic Survey says that the "basic needs" approach to economic development focuses on minimum specified quantities of basic necessities. This is necessary to prevent ill health and under nourishment.

Bare Necessities Index (BNI)

- Economic Survey 2020-21 constructed a Bare Necessities Index (BNI) at the rural, urban and all India level.
- BNI is an attempt to quantify the "basic needs" approach to economic development using data from National Statistical Office (NSO).
- The BNI summarizes 26 indicators on five dimensions viz., water, sanitation, housing, micro-environment, and other facilities.
- BNI is based on the large annual household survey data at district level for all/targeted districts to assess the progress on access to bare necessities.
- The BNI has been created for all States/UTs for 2012 and 2018 using NSO data at State Level.

Economic Survey findings on bare necessities

Pictographic representation of access to bare necessities:

State-wise values of BNI in 2012 and 2018 for India (rural + urban), are shown in the images below.

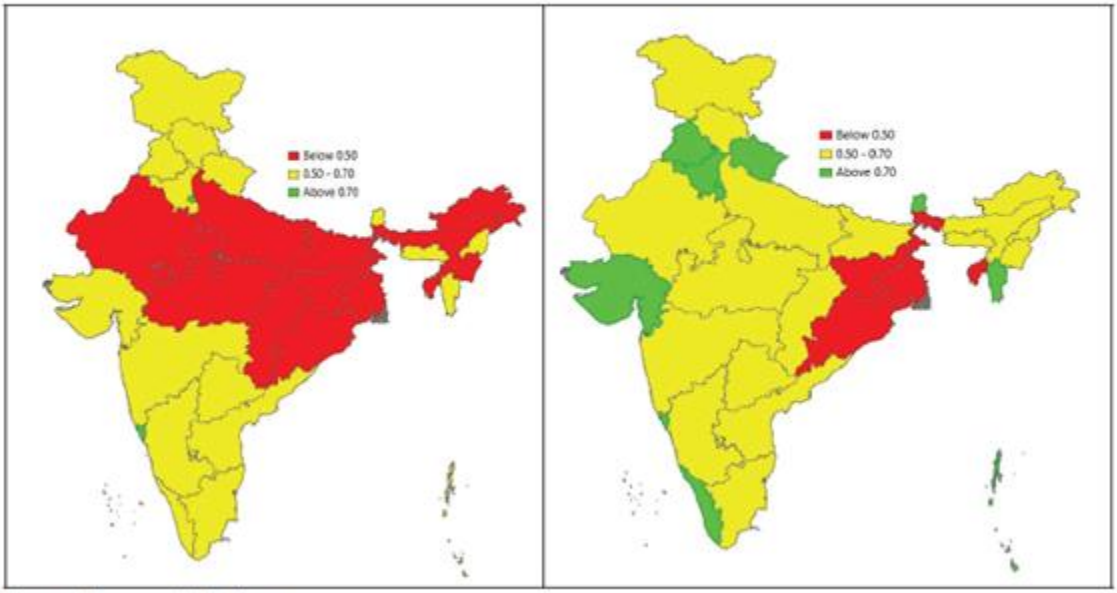
- A higher value indicates better access to bare necessities in a State.
- The three colours, green, yellow and red, used in the maps show the level of a State in providing access to bare necessities to its households.
- Green (above 0.70) indicates 'High' level and is therefore the most desirable.
- Yellow (0.50 to 0.70) indicates 'Medium' level.
- In contrast, Red (below 0.50) indicates very 'Low' level of access.
- The difference in colours in a map indicates the regional variation in the access to bare necessities for the households.

Improvement in access to bare necessities between 2012 and 2018:

- As per the Survey 2020-21, access to the 'bare necessities' has improved across all States in the country in 2018 as compared to 2012.
- It is highest in States such as Kerala, Punjab, Haryana and Gujarat while lowest in Odisha, Jharkhand, West Bengal and Tripura.
- Inter-State disparities declined across rural and urban areas, as the previous laggard states have improved relatively more between 2012 and 2018.
- Access to bare necessities improved strongly for the poorest households across rural and urban areas.

Figure 1: Improvement in the Bare Necessities Across India (Rural + Urban) from 2012 to 2018

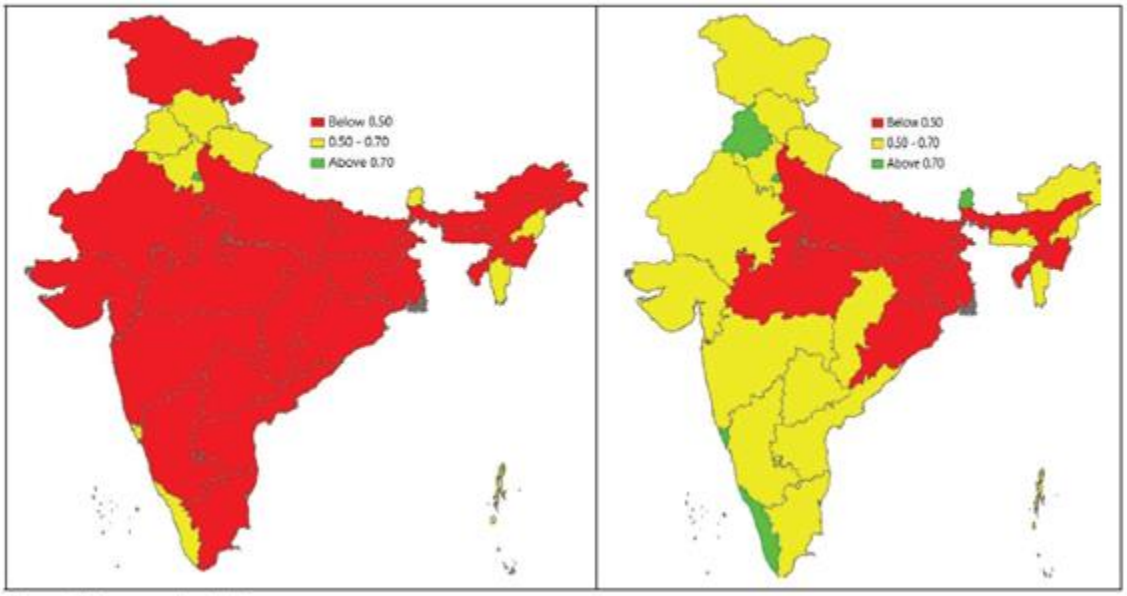
BNI for India (Rural + Urban) 2012 BNI for India (Rural + Urban) 2018



Source: Survey calculations.

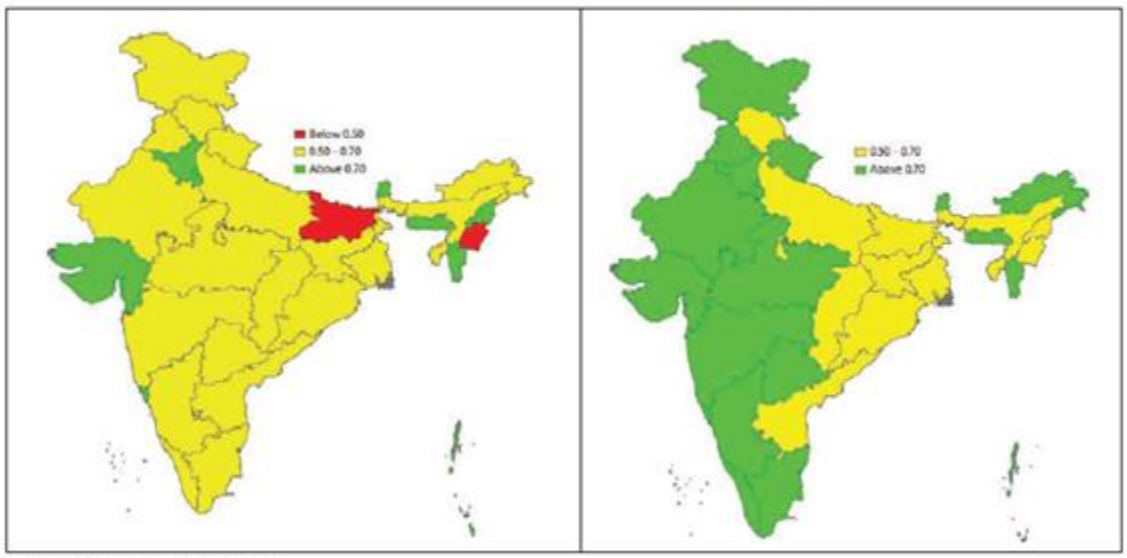
Figure 2: Improvement in the Bare Necessities Across Rural India from 2012 to 2018

BNI for Rural India 2012 BNI for Rural India 2018



Source: Survey calculations.

Figure 3: Improvement in the Bare Necessities Across Urban India from 2012 to 2018



Source: Survey calculations.

Improvements across various dimensions

Drinking water: According to the survey access to drinking water to households in most of the States has improved in 2018 compared to 2012 in rural as well as urban areas.

Sanitation: Survey also shows that the sanitation access has improved for all States in rural areas and for most of the States in urban areas in 2018 compared to 2012. It also notes that regional disparity in access to sanitation has declined as the States having low access to sanitation in 2012 have gained more. The level of access to safe sanitation has increased in lowest income quintile.

Housing: Survey observes improvement in Housing Index also indicating improvement in access to housing and reduction in inter-States disparities with disproportionate benefits for the lowest income group in 2018 vis-à-vis 2012.

Micro environment: The economic Survey also notes improvement in micro environment (drainage, freedom from flies/mosquitoes etc.) for all States in 2018, except for Assam in rural and Odisha and Assam in urban areas, as compared to 2012.

Other facilities: Similarly Survey has observed improvement in access to other facilities which captures the availability of Kitchen, Kitchen with a water tap, good ventilation in house, access to bathroom, electricity use and type of fuel used for cooking.

MISCELLANEOUS

- **The Archaeological Survey of India (ASI) has come across an ancient stone structure engraved with statues, near Shree Lingaraj Temple.**

The ancient structure believed to be from Somavamshi period was found while the ASI was carrying out scientific cleaning of a piece of land near the Suka and Sari temple complex, close to the Shree Lingaraj Temple. The ASI looks after 28 temples, including the Suka-Sari temple complex and Lingaraj Temple in the Ekamra Kshetra (old town area of Bhubaneswar that has several temples).

Bhubaneswar is called the Ekamra Kshetra as the deity of Lingaraja was originally under a mango tree (Ekamra) as noted in Ekamra Purana, a 13th-century Sanskrit treatise.

Suka and Sari temples

- Suka and Sari temples are situated in the same walled compound.
- Sari temple is famous for its beautiful floral and scroll-work carvings. Since it was constructed with soft sandstone material, most of its beauty has already weathered (disintegrated).
- The Suka Temple is not in use but the sculptures on the exterior walls of the temple suggest that the temple was originally dedicated to Lord Shiva.
- In the recent excavations as discussed above, the ASI also discovered two other structures, believed to be the remains of small shrines, and a portion of the Sari temple.
- These findings have led ASI experts to believe that the Sari temple complex was built on the Panchayatana model, where the main temple is surrounded by four subsidiary (smaller) shrines.
- This means that there is a high chance of additional heritage structure lying buried under encroachments in the Ekamra Kshetra.

Lingaraj Temple

- Lingaraj Temple is dedicated to Lord Shiva and is one of the oldest temples in Bhubaneswar.
- The temple is a perfect example of the Kalinga architecture and marks the peak of temple architecture in Bhubaneswar, which was the birthplace of the Kalinga school of temple architecture.

- It is believed to be built by the kings from the Somavamsi dynasty, with later additions from the Ganga rulers.
- It is built in the Deula style that has four components namely, vimana (structure containing the sanctum), jagamohana (assembly hall), natamandira (festival hall) and bhoga-mandapa (hall of offerings).
- In Lingaraj temple, Shiva is worshipped as Harihara, a combined form of Vishnu and Shiva. This signifies the syncretisation (merging) of Shaivism and Vaishnavism sects in Odisha.
- The other attraction of the temple is the sacred Bindusagar Lake.

Archaeological Survey of India (ASI)

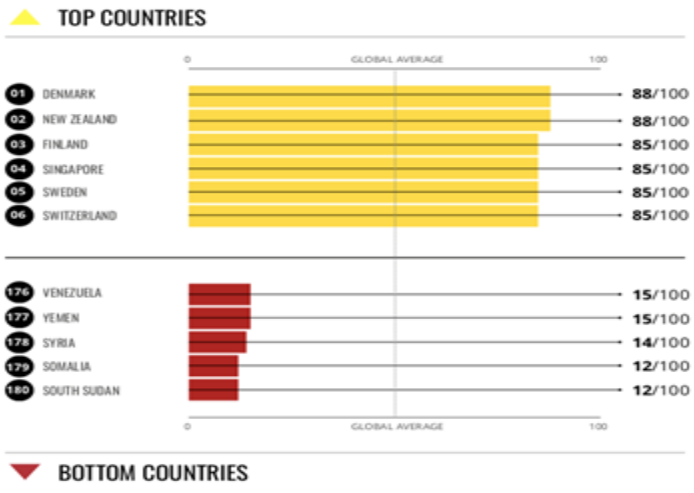
The Archaeological Survey of India (ASI), under the Ministry of Culture, is the premier organization for the archaeological researches and protection of the cultural heritage of the nation.

Maintenance of ancient monuments and archaeological sites and remains of national importance is the prime concern of the ASI. It regulates all archaeological activities in the country as per the provisions of the Ancient Monuments and Archaeological Sites and Remains Act, 1958.

➢ Corruption Perception Index

The Transparency International recently released the Corruption Perception Index (CPI) 2020.

Corruption Perception Index: The index released annually by Transparency International, ranks 180 countries by their perceived levels of public sector corruption according to experts and business people. It uses a scale of zero to 100, where zero signifies the highest level of corruption and 100 is very clean.



➢ Noble Peace Prize

- The Norwegian Nobel Committee announced the **2020 Nobel Peace Prize to the UN agency World Food Program (WFP).**
- The agency was given the prize for its efforts to combat hunger and improve conditions for peace.
- It was established in 1961 when then US President Dwight Eisenhower had suggested the idea of providing food aid through the UN system.

➢ Zoological Survey Of India Study on Sundarban Biosphere Reserve

- The Zoological Survey of India (ZSI) recently released a pictorial guidebook titled, Birds of the Sundarban Biosphere Reserve.
- The book not only documents the birds of the Sunderbans, but also serves as comprehensive photographic field guide, with detailed distribution and locality data for all the species from the region.
- The guidebook is aimed to generate interest and spread knowledge about birds among people and encourage bird watching.
- Bird watching not only brings people closer to nature but also creates awareness and livelihood opportunities for the locals.

Highlights of the publication

- The mudflats in Sunderbans exposed in the low tides, rich in microorganism deposited during tidal activity are ideal for feeding migratory birds. These mudflats and wetlands of Sunderbans act as a stopover site for migratory flight south wards and back. As per the study, Indian Sunderbans, which is part of the largest mangrove forest in the world, has 428 species of birds.
- India has over 1,300 species of birds and as 428 species of birds are from Sunderbans, it means that one in every three birds in the country is found in Sunderbans.
- The birds have been classified in different categories like common, uncommon, rare, threatened etc so that conservation efforts through community participation can be taken up by the state Forest department.
- Of the 428 birds listed, some, like the Masked Fin foot and Buffy fish owl, are recorded only from the Sunderbans.

- The area is home to nine out of 12 species of kingfishers found in the country as well as rare species such as the Goliath heron and Spoon-billed Sandpiper.

Sundarbans

- The Sundarbans is a mangrove area in the delta formed by the confluence (convergence) of the Ganges, Brahmaputra and Meghna Rivers in the Bay of Bengal.
- It spreads from the Hooghly River in West Bengal to the Baleswar River in Bangladesh and is the largest mangrove forest in the world.
- The Indian part of Sunderbans is estimated to be about 40 percent, while the Bangladeshi part is 60 percent.
- The biogeography of Sunderbans is unique and the region has a rich diversity in terms of species, ecosystem and habitat types. It includes mangrove forests, land used for agricultural purpose, mudflats and barren land.
- The Indian Sunderbans, which covers 4,200 sq km, comprises of the Sunderban Tiger Reserve and is also a UNESCO world heritage site and a Ramsar Site.
- Mudflats also known as tidal flats, are coastal wetlands that form in intertidal areas where sediments have been deposited by tides or rivers.

Zoological Survey of India (ZSI)

The Zoological Survey of India (ZSI) was established in 1916 as the premier Indian organisation in zoological research and studies. It comes under the Ministry of Environment, Forest and Climate Change.

➢ GHTC-India initiative

- The Ministry of Housing and Urban Affairs (MoHUA), Government of India, has conceptualized a Global Housing Technology Challenge - India (GHTC- India).
- The GHTC-India platform aspires to provide an eco-system for the adoption of innovative technologies in the housing construction sector in a holistic manner.
- It aims to identify and mainstream a basket of innovative technologies from across the globes that are sustainable and disaster-resilient.
- The GHTC provides the scope for incubating new technologies for construction and innovation.
- GHTC-India leverages the scale and successes of the Pradhan Mantri Awas Yojana (Urban) and its Technology Sub-Mission.

➢ H1B Visa

Why in News: The US administration has amended the H-1B visa norms by changing the rules to give priority to higher wages and skills for selection of deserving candidates.

H1B and other Work Visas

The US administration issues a certain number of work visas each year which allows companies from outside the US to send employees to work on client sites. This facilitates to fill a vacuum of highly-skilled low-cost employees in IT and other related domains. It is a kind of win-win for both the employer and the employee. However, it has since often been criticised for sending low cost workers to the US at the expense of domestic workers.

- **H-1B Visa:**
  - It is given to a person who is in a Specialty Occupation. It requires a higher education degree of its equivalent.
  - Of all the work visas, the H-1B remains the most popular among Indian IT companies.
  - The US issues 85,000 H1B visas annually. Of these, 65,000 are issued to highly skilled foreign workers; the other 20,000 can be additionally allotted to highly skilled foreign workers who have a higher education or Masters degree from an American university.
  - The visas are generally approved for three years, after which holders often change employers and continue working for other companies based in the US.
- **L1 Visa:**

It allow companies to transfer highly skilled workers to US for a period of up to seven years.

- **H-2B Visa:**

It allows food and agricultural workers to seek employment in the US.

- **H-4 visa:**
  - A 2015 law brought in during the tenure of Previous US President Barack Obama, allowed spouses of H-1B workers to be granted an H-4 visa, through which some have been allowed to apply to work in the US.
  - Since the law was instituted, a total of 1.2 lakh H-4 visas have been granted, of which 1.1 lakh have come from India (mostly for women).

Indian IT Sector and H-1B Visas

- Indian IT companies are amongst the biggest beneficiaries of the US H-1B visa regime, and have since 1990s cornered a lion's share of the total number of visas issued each year.
- As of April 1 2020, Indians had applied for 67 per cent of the total H-1B work visas for the current financial year ending March 2021.
- However, the dependence of Indian companies on H-1B visas has been reducing in recent years. For example, as per US government data, in 2018-19, the top five Indian IT companies (TCS, Cognizant, Infosys, Wipro, and HCL Tech) together sent about 5,000 high-skill IT workers to the US on H1B visas, far fewer that the nearly 16,000 they sent in 2014-15.
- Despite the large Indian IT companies cutting down their dependency on H-1B and other worker visas by hiring as much as 50 per cent of staff locally, they still rely on these visas to keep costs in check.

Number of H-1B visas issued

- Currently, every year the US administration issues 85,000 H-1B work permits.
- Of these, 65,000 are for people with specialty occupations, while the rest are reserved for foreign workers who have earned a Master's or a higher university degree in the US.
- Each employer who seeks to employ a worker on H-1B visa must fill out a registration form on behalf of the employee who they wish to employ.
- The form contains all the details of the employee, such as the nature of work they will undertake in the US, the wage being offered to them, the level of education of these workers and so on.